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June 25, 1896.]

THE
JOURNAL OF HORTICULTURE,
COTTAGE GARDENER,
AND
HOME FARMER.

A CHRONICLE OF COUNTRY PURSUITS AND COUNTRY LIFE INCLUDING BEE-KEEPING.

CONDUCTED BY
ROBERT HOGG, LL.D., F.L.S.

Established



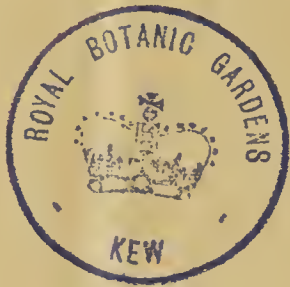
in 1848.

VOLUME XXXII. THIRD SERIES.

JANUARY — JUNE, 1896.

LONDON:
PUBLISHED FOR THE PROPRIETOR, 171, FLEET STREET.

LONDON :
PRINTED AT THE JOURNAL OF HORTICULTURE OFFICE,
171, FLEET STREET.



TO OUR READERS.

ON the completion of another half-yearly volume of the *Journal of Horticulture*, to which the annexed index refers, the pleasurable duty devolves upon us of thanking most cordially and sincerely all who have aided in its production

Not only do we wish to recognize the valuable and much appreciated co-operation of those of our skilled coadjutors—amateurs and gardeners—who, with ready pens and wide knowledge, have enriched its pages, but we view with scarcely less approval the desire of young practitioners to acquit themselves well in the art of communicating impressions that they conceive may be interesting, instructive, or suggestive; this is to them congenial mental exercise, while it affords to others no small measure of satisfaction.

We also wish to record our obligations to many friends who from time to time, and from various districts, favour by sending notes on shows, or items of interest that come within their cognizance, and the publication of which imparts welcome variety to our pages

Not infrequently do we receive evidence of not young men only, but men of ripe experience, desiring to communicate, but whose innate modesty or assumed educational incapacity restrains them. From a letter before us, sent to the publishing department, we take these words:—

“I have often thought I should like to write to the Editor and tell him what a source of pleasure, instruction, and encouragement the Journal has been to me, but having had to handle tools long before the younger generation ceased using the pen at school in the present day of learning, I did not get so much education as of practical work. When I first began to take the Journal I was a lad, and I well remember resolving to do so instead of smoking. I became, as it were, attached to writers I had never seen, such as R. Fish and many others, including ‘Thinker,’ and begin to feel myself an old subscriber.”

Will our friend be surprised to hear that most of the writers he learned to love had to commence work long before they entered their “teens,” and simply became expert penmen through starting with brief notes, profiting by editorial corrections, and persevering until they became as much at home with the pen as they were with the spade? Most gardeners who have won reputations, not to say renown, as writers to the horticultural press—we say it to their credit—have been and are self-educated men, a fact that ought not to be lost on present-day probationers.

We take up another letter from a gardener, who, though still comparatively young, has done excellent work in and for the Journal, because he felt it had done something for him; and he is certainly not the less successful as a cultivator through having acquired by practice a fluent pen. Here is his letter:—

“The Journal continues its course of usefulness to old and young alike, and is essentially practical. I always look upon Thursday as the red-letter day in the week, for then I can get my Journal, which to me is a great boon. How we could do without it I do not know.”

If such an able gardener cannot do without the Journal, what is to be said of many others who need its guidance more? It is intended to be as practical in the future as it has been in the past, also equally up to date in matters horticultural.

Yet another letter comes as we are writing, from far away New Zealand. It refers to Chrysanthemums, though it arrives in the old country during the “month of Roses.” The writer, after referring to the “mums” having “caught on” in the colony, goes on to say:—

“Your paper is a splendid one, and I can tell you is eagerly looked for. The numbers containing Mr. E. Molyneux’s ‘audit’ were of much interest in this far-off land, and are invaluable to growers and importers.”

Those few short citations are presented for the purpose of showing to our coadjutors that their labours in instructing and entertaining readers at home and abroad are not fruitless, and by their continued efforts, of which we are assured, the usefulness and wide acceptability of the Journal in its departments of Gardening, Bee-keeping, and Home Farming will be undoubtedly maintained.

INDEX.

- ACONITES, Winter, 138; attractive, 144
 A crowning mercy, 491
 Address, new year's, the, 1
 Aorides, notes on, 302, 350
 Agave vivipara, 53; americana, 268
 Allamandas, growing, 187
 A look round, 326
 Amsonia Tabernamontana, 539
 Anemone Polyanthes, 258; vernalis, 223; Aldborough, 456; from seeds, 530
 Angella, culture of, 313
 Angrecums, Leonis, 439; culture of, 98
 Anthurium Scherzerianum, 37, 204; A. Andreanum, 204; Andreanum, Kelly's variety, 580; Lawrenceanum, 580
 Aphides, spring, 349
 Apples—as medicine, 8; Lord Hindlip, 69; Royal Late Cooking, 135; storing in peat moss, 140; attractive, 144, 183; following land for, 174; spraying, 219; early, keeping late, 233; certificated, 256; Goodwood Pippin, 263; blossoms destroyed by sparrows, 432
 Apple trees, beetles on, 408
 Apricots, pruning, 105
 April, the glories of, 365
 Arachis hypogæa, 433
 Arbutus Unedo, 31
 A reminiscence, 236
 Arphyllum giganteum, notes on, 486
 Arum Lilies, 33; after flowering, 449
 Asparagus in berry, 52; for decoration, 97; bunching machine, 175; culture, 297; seedling, thinning, 575
 Asparagus plumosus, propagating, 502; tenuissimus albanense, 580
 Asplenium nidus, 75
 Auricula notes, 414; seedling dying, 336; Mrs. Henwood, Midnight, Dean Hole, 398
 Auricula Society, the National, 398
 Austen, Mr. J., presentation to, 184
 Australian parks and recreation reserves, 444
- BALANCES, natural, 366
 Bananas, notes on, 119
 Barbarea vulgaris fl.-pl., 515
 Barron, Mr. Archibald F., 363; portrait of, 375
 Basket, Orchid, 247
 Beans, Kidney, forcing, 20
 Bedding, summer, notes on, 214
 Bedford, His Grace the Duke of, portrait of, 585
 Bees—bottom ventilation of hives, 19, 42; carbolic acid versus smoke, 19, 42; enemies of bees, 19, 42; wide and narrow entrances to hives, 20, 42, 85; hints from experience, 41, 63, 85; feeding, 42; seasonable notes on, 63, 129, 173, 194, 213, 336, 383, 525, 549, 574; profitable bee-keeping, 85; notes on, 107, 407; aids to success in bee-keeping, 107, 152; a bee puzzle, 107; age of, 129; a successful octogenarian keeper, 129; economy in bee-keeping, 151;
- BEES—continued.
 how colonies behave, 173; chloric dropsical fever, 173; does bee-keeping pay? 194; making comb foundation, 218, 246; condition of hives, 267; rearing queens, 267; prospects for 1896, 290; foul brood, 312; spring management of, 360; flowers for, 407; cross-bred bees, 431; production of honey, 432; when to super, 432; the size of hives, 455; production of run honey, 455; bees and Tomatoes, 456; bees in Devon, 456; questions and answers, 479; vagrant swarms, 479, 502; Carniolans, 479; controlling swarming, 479; queenless stocks, 480; the drought, 501; natural swarming, 502; queen rearing, 509
 Begonias—Freibell incomparabilis, 33; Winter Gem, 125; tuberous, for planting, 243; tuberous, for beds, 456
 Belvoir in beauty, 415; portrait of Mr. W. H. Divers, 415; plan of flower bed, 427
 Berberis stenophylla, fine specimen of, 443
 Birkenhead Gardeners' Society, 51
 Birmingham Gardeners' Association, 141, 333
 Birmingham jottings, 237
 Bisulphide of calcium for diseased Pear leaves, how to make, 408
 Blackberries, 582
 Boiler furnace not drawing, 168
 Book, "The Orchid Hybrids," 47
 Botanic (Royal) Society—Daffodil show, 355; Daffodil conference, 356; show, 453
 Botanical trip in East Central Africa, a, 14
 Bongainvilleas, culture of, 103
 Browallia elata, 196
 Bulbophyllum haarlense, 140
 Bulbophyllum barbigerum, notes on, 486
 Busy time, a, 474
- CABBAGE MAGGOT, the, 31
 Cabbages, boiling, 371
 Cacti, soil for, 312
 Caen Wood Towers, 509; Magnolia conspicua at, 517
 Caladiums, some good, 450
 Calanthe gigas, 25; culture of, 203
 Calceolarias, herbaceous, 426; failing, 526
 Calochortus Eldorado, 580
 Cambridge Lodge, Orchids at, 438
 Camellias, grafting, 108; at Edgbaston, 183
 Canker, tar and petroleum for, 414
 Cannas, notes on, 389; Thalia, 589
 Carnations in the winter, 34; leaves diseased, 153; Uriah Pike, 162, 226, 255, 287; border, selection of, 175; Malmaison, notes on, 236; for cutting, 247; Miss Jolliffe, old & young plants, 349; old Clove diseased, 361; disease, 396; tree, 526; Hope, 580; spotted and Condy's fluid, 591
- Carrots for exhibition, 103
 Carton, Ireland, a visit to, 126
 Catalpa bignonioides, 120
 Caterpillars infesting green vegetables, 290; a plague of, 490
 Cartleyas, notes on, 422; Trianae, 113; Percivaliana, 160; Percivaliana, Ingram's variety, 178; Schrödera, 231
 Cauliflowers, growing, 23; about, 97
 Celosias, growing, 379
 Centropogon Lucyanus, 9
 Chamberlain, the Right Hon. J., his home and garden, 227; as a speaker, 228; as a gardener, 228
 Cheal, Mr. J., sen., death of, 163; portrait of, 191
 Chemical manures, 97; for light soil, 130
 Chenopodium Bonus-Henricus, 385
 Cherry house, the, 40
 Chester Show, notice of schedule, 162
 Chicory, growing, 12
 Chimonanthus fragrans, 29
 Chionodoxas, 185
 Chiswick—a last look round with Mr. Barron, 4; trials of Spinach at, 506; Strawberries at, 555
 Chorozema cordatum splendens, 403
 Chrysanthemums—Mons. Chenon de Leché, 10; disqualification at Glasgow, 10, 100, 115; Yellow Bouquet des Dames, 10; Beauty of Teignmouth and Pride of Madford, 10, 35; Madame Carnot, 10; home and foreign raised varieties, 10; incurved, 10; sports, 10; insects piercing the young growths of, 20; new single-flowered varieties, 35; the Golden Flower (Mr. Smale's essay), 35; a good late crimson variety wanted, 56; the N.C.S. Jubilee celebration, 56; as border plants, 56; buds blind, 64; Bonnie Dandee, 77; Chrysanthemum Album, 77; experience with varieties, 77; William Seward, 100; Highgate Chrysanthemum Society, 100; early and semi-early flowering varieties, 100; Sheffield Chrysanthemum Society's annual dinner, 115; culture of the, 115; a chat with beginners, 144; Chrysanthemums up to date—Mr. Molyneux's analysis, 155, 212, 213; votes for fifty Japanese, 157; votes for twenty-four Japanese, 157; votes for twelve new Japanese, 158; National Chrysanthemum Society, 170, 261, 492; Batley Chrysanthemum Society, 170; Mr. Molyneux's census, 189; the French National Chrysanthemum Society, 189, 402, 442, 494; the N.C.S. jubilee schedule, 189, 261; N.C.S. annual general meeting, 189; votes for the incurved, 212; English Chrysanthemums in America, 214; spring notes, 240; English varieties, 240, 262; Mr. E. Molyneux, 261, 376; Sheffield
- CRYSANTHEMUMS—continued.
 Chrysanthemum Society, 261, 352, 477, 566; the audit, 261; trained specimens, 298; review of books—"Owen's," "Wells," and "Le Chrysanthème à la Grande Fleur," 320; proposed show for Portsmouth, 376; four new varieties, 374; a New Zealand memorial cup, 402; a New Zealand Society, 402; in Portugal, 442; pictures of, 442; a new catalogue of, 442; little difficulties in topping and timing, 477; certificated Chrysanthemums in Australia, 566; the Sydney (N.S.W.) Chrysanthemum Society, 566; (Marguerite) nivalis compacta, 530
 Chysis aurea, 247; notes on, 251
 Citrus inodora, 119; trifoliata, 247
 Clare Lawn, Orchids at, 367
 Clematis Davidiana, 255
 Clematis from cuttings, 503
 Cilanthus puniceus, 469
 Climbers, evergreen, for a north aspect, 175
 Civias and Caladiums (Laing's), 353
 Codlin moth, the, 108
 Cologne cristata, 47, 160; cristata repotting, 108
 Co-operation, yet division, 67
 Corridor at Highbury, the, 234
 Cranberry culture, 65
 Cresol, soluble, for watering Tomatoes, 247; soluble, effect of on soil, 268
 Crickets, killing, 247
 Cucumbers—root disease, 13; about, 62; growing, 281; disease—a phenyle failure, 309, 321; phenyle for disease in, 370; plants dying, 384; disease and kainit, 397; white and green, 419
 Cummins, Mrs. G. W., death of, 582
 Currants for exhibition, 43
 Cuttings, simple method of rooting, 243
 Cyperus, notes on, 76
 Cyripediums—Gertrude Hollington, 3; Euryades, 47; Elliottianum, 55; James Buckingham, 159; Insigne, 203; some useful, 252; Exul, Major Jolley's var., 319; beliatulum, 391; Neptune, 580; Superbiens, 580
 Cyripediums, notes on, 202, 224
 Cytisus scoparius Andreanus, standard of, 462; hardy, 543
- DAFFODILS, at Dublin, 350; show of, and conference on, at Regent's Park, 355; at Ditton, 380
 Dahlias, analysis of, 117; Pompon, for cutting, 246; for garden decoration, 246; propagation of, 260; analysis, Mr. E. Mawley's, 339
 Date Plum, the, 385
 Decorations, winter, in the olden time, 54; tabic, 241
 Delphinium formosum, protecting, 219
- Dendrobiums—Juteolum, 142; Lecchianum, 239; Wardianum, 237; nobile nobiliss, 247; mo-chatum, 318; Clio. Tyntesfield variety, 366; pallens, 422; nobile, 471; notes on, 142, 566
 Disa grandiflora, 480
 Divers, Mr. W. H., portrait of, 415
 Docks, 539
 Downside, Leatherhead, 450
 Draining, notes on, 120
 Drought, the, 444, 567; and its lessons, 529
 Dulwich Park, 452
- EARLY VEGETATION, 299
 East Central Africa, a botanical journey in, 14
 Edgings for garden paths, 309
 Education in horticulture, 315
 Encyclopædia of gardening, an, 139
 Endive and Chicory, 195
 England's strength and weakness, 45, 79, 110
 Epacris culture, 26
 Epidendrum elegantulum, 251
 Episodes in Vine growing, 222
 Epping Forest Committee, the, 141
 Eranthem pulchellum, 185
 Eucharis—bulbs, insects on, 247; E. amazonica, 299; infested with snails, 384
 Eupatorium probum, 30
 Euphorbia jacquiniiflora, 34, 56
 Evergreens, 17; low growing, for peat beds, 131
 Exhibitors, hints to, 440
- FAIRY RINGS, destroying, 108
 Farm—profitable farming, 21, 44, 66, 87; growing Mangolds for exhibition, 88; laying land for pasture, 88; crop and stock, 109; the breeding ewes, 181; masters and men, 181; Barley, 154; hedges, 175; Oats, 198; storage of corn, 198; notes on experiments on "Finger and Toe," 198; those wretched Potatoes, 220, 248; an Irish view, 270; the village milk supply, 269; the agricultural labourer and his position, 291; small seeds, 313; the early life of the calf, 337, 361; Lucerne, 385; lambing season of 1896, 409; manures for Turnips, 434; draught horses, 457; what pays? 481; on dairy work, 505, 527; how to farm well, 551; Australian, 539; low prices, 576; dairy instructions, 591; work on the home farm, 22, 44, 66, 88, 100, 131, 154, 176, 198, 220, 248, 270, 292, 314, 338, 362, 386, 410, 434, 458, 482, 508, 528, 552, 576, 592
 Farmleigh, Castleknock, 54
 Fence, a rabbit-proof, 57
 Fernery, a hardy, 317; green glass for, 361

Ferns, treatment of, 190; weevils on, 290; Elk's-horn, 407; Filmy, 507, 539, 561; Calliornian, 539; British, 536
 Figs—hints about, 39; scalds on young growths of, 152; notes on, 171; outdoor, pruning, 290; dropping, 313; soil for, 433; at Chiswick, 445
 Findlay, Mr. Bruce, death of, 532
 Fish, diseased, 130, 153; gold, 369
 Floral decorations, 6; millinery, 354
 Floral facts and fancies, 93, 254, 368, 488
 Florists' flowers, hints on, 101
 Flower garden, the, 62, 106, 172, 335, 407, 454, 524
 Flower garden, variety in the, 249
 Flowering trees, notes on, 450
 Flower shows, 16, 28, 59, 76, 102
 Flowers, hardy, notes on, 13, 69, 92, 114, 200, 253, 293, 344, 392, 436, 436, 510, 536, 553; when they are valuable, 24; for Christmas, 53; for winter, 78; hardy, in the south, 208; spring, at Holloway, 288; winter, 476
 Food resources, 483
 Forest Hill, a visit to, 353
 Forget-me nots for spring gardening, 512
 Forsythias at Kew, 534
 Fowl manure, 65
 "Freely received," therefore — 181
 Freesias, growing, 84
 Fritillaria pudica, 295
 Frost, water against, 171; action of, the, 271, 298, 373; guarding against late, 390
 Fruit and flowers in Egypt, 192
 Fruit forcing, 13, 39, 61, 83, 105, 127, 151, 171, 193, 216, 245, 266, 289, 311, 335, 359, 382, 406, 431, 454, 479, 500, 524, 548, 573
 Fruit growing in New South Wales, 496
 Fruit—hardy fruit garden, 17, 61, 105, 150, 245, 283, 334, 382, 430, 478, 523, 572; liquid manure for trees, 17; washing trees, 17; culture sixty years ago, 49; chemical manure for, 64, 233; destroying insect eggs on, 73, 117, 457; deferred blossom, 95; the supply of Covent Garden Market, 211; in the Himalayas, 207; double grafted Pears, 233; buds of bush fruits and frost, 233; "sunspot" or "sunburn" in Strawberries, 235; nitrogenous manures for, 233, 295, 377; pruning and trimming, 308; canker, 308; Apple Horned Pearmain, 308; Pear Nain Vert, 308; prospects, 402; preservation of fresh fruit, 469; plantations, rating, 505; drying by electricity, 538; trees in pots at Gunnersbury House, 558; from Australia, 563
 Fuchsias and Petunias, 575; for conservatory decoration, 307
 Fungus on Strawberries, 361
 Future, thoughts of the, 43
 GALLS on Oak shoots and leaves, 430
 Garden, a pretty, 330
 Gardeners and poetry, 91
 Gardeners' friends, 81
 Gardeners' Royal Benevolent Institution—General meeting and dinner, 79; Wolverhampton Auxiliary, 277; Worcestershire branch, 419; opening of Osherton Gardens, 494; annual dinner, 519; meeting at York, 533
 Gardeners' (Royal) Orphan Fund, annual general meeting, 181; Secretary's salary, 182; voting papers, 182; portrait of His Grace the Duke of Bedford, 565
 Gardeners, young, their hours and habitations, 166, 310, 398, 417, 476, 496, 558
 Gardenias, culture of, 313; after flowering, 575
 Garden pests and antidotes, 212, 307, 328, 343, 393, 422
 Garden produce, raising, 93
 Gardens about London—Spring Grove House, Isleworth, 425; Downside, Leatherhead, 450; Caen Wood Towers, 509; Syon House, 540
 Gardens, cur, 304
 Genista, cause of flowers dropping, 130
 Gentle spring, 226
 Geum Heldreichi, 539
 Glebelands, Orchids at, 472
 Gleichenias, culture of, 21
 Gloriosa superba, 394
 Gold fish, 369
 Goldsmid, Sir Julian, death of, 51
 Gooseberries for exhibition, 43
 Grafting, 238; wedge, 337; an uncommon method of, 355
 Grape, Cooper's Black, 9; origin of, 57

Grape culture in its commercial aspect, 411, 441, 475
 Grape factories, 445
 Grapes—growing at Hyfleet, 16; modern, 34, 93, 164, 260; express, 122; Gros Colman diseased, 130; Muscat, 136; questions on, 180; for market, 192; stoning, 195; does it pay? 204; Canon Hall Muscat, 278; scalding, 513; phenomenon, a, 490; diseased, 551; scalded, 550; late, notes on, 570; mildew on, 575
 Greenhouse plants injured, 290
 Greenhouses, rating, 64
 Grubs in a Vine border, 433

HAMPTON COURT, a visit to, 423
 Hardy plants in pots, 495
 Harton Cemetery, South Shields, 397
 Hawarden Park, 150
 Heath land, the cultivation of, 145, 163
 Hedges, ornamental, 188
 Hedychium Gardnerianum, 239
 Heliborus orientalis, prizes for, 561
 Hepaticas, 164; H. angulosa, 165
 Hesperis matronalis, 515
 Highbury, 127; the mansion, 227; Mr. Chamberlain as a speaker and as a gardener, 228; the mansion and conservatory, 228; the corridor and plant houses, 229; the Orchids, 230; the fruit and supply houses, 230; the pleasure grounds, 232; various hardy plants and flowers at, 232; the kitchen garden and workers, 233; the corridor, 234; an Orchid house, 235
 Hints to exhibitors, 440
 Hippeastrums—bulb-drinking, 108; losing leaves, 268; at Chelsea, 335; at Aigburth, 453
 Hollyhocks, culture of, 272
 Honest work and honest workers, 3
 Horn-r's, Rev. F. D., garden, 451, 477, 494, 511
 Horticultural history notes—King's Road, Chelsea, in the nursery days, 160; the nurseries and gardens of old Lambeth, 275; pioneer gardeners in North London, 437
 Horticultural outlook, the, 221
 Horticultural (Royal) Society's changes—Provincial opinion, 7, 53; provincial extension, 111; the Barron agitation, 123; provincial shows, 427, 449, 492; examination of 1896, 496; names of Committees for 1896, 71; list of lectures for 1896, 74; the Drill Hall meetings, 100; Chiswick awards, 100; annual general meeting, 147; deputation at York, 554; Committees, 58, 101, 145, 244, 288, 321, 378, 429, 533, 579; Scientific Committee, 71, 260, 352, 404, 448, 570; certificates and awards of merit, 59, 147, 245, 287, 379, 430, 535; Temple show, 460; certificates and awards of merit, 464, 539; list of awards, 466
 Hotbeds and their uses, 50
 House decorations, Palms for, 274
 Hydrangea involucrata vera, 103
 Hyacinths in glasses, 133

INSECTS, destroying eggs on fruit trees, 73; in soil, 193; pests, 184
 Irises, a chat about, 530; Robinsoniana, 568; Kampferi Chigo, 580
 Irish notes, 511
 Iron, its effects on vegetation, 487
 Is a nursery a market garden? 515
 Ivy for pot culture, 526

JAMESIA AMERICANA, 37
 Jordan, Mr. W., death of, 51
 Jottings, 568
 "Journal of Horticulture," Spring Special, 262
 Journal, up to date, the, 282
 Judging, rules for, 257, 280, 338
 June, the leafy month of, 55

KINDS AND VARIETIES, 257
 Kitchen garden, the, 40, 84, 128, 217, 266, 311, 359, 501, 549

LABURNUMS, about, 507; vagaries in, 527
 Lælias, superbiens, 25; anceps, 26
 Land, laying for pasture, 83
 Lapeyrousia corymbosa, 379
 Lawn, seeds for, 174
 Lead in plants, 361
 Leeds Professional Gardeners' Benefit Society, 32
 Lemons, Californian, 141
 Lenten Roses, 185
 Lessons of the drought, 520
 Leucolum carpathicum, 169, 205
 Liliium auratum bulbs decay-ing, 291
 Liliiums and Rhododendrons, 186
 Lily of the Valley, notes on, 201; forcing, 306; refrigerated, 306
 Lithospermum prostratum, 475
 Liverpool Horticultural Association, 52, 96
 London, a week in—a peep at the parks, 520; the Temple show, 520; Covent Garden, 547; in the streets, 547; on the river, 548; the Great Wheel, 548
 London markets, 171
 London's spring flowers—the Embankment Gardens, 352; Parliament Square, 352; St. James' Park, 352; Hyde Park, 352; Regent's Park, 353; Victoria Park, 370
 Loniceria sempervirens, 563
 Lowfields, a visit to, 451, 477, 511
 Luculia gratissima, 263
 Lycastes, notes on, 70; Skinneri, 366

MADRESFIELD COURT, a visit to, 104
 Magnolia conspicua at Caen Wood Towers, 517
 Mahonia sprays, 8
 Mangolds, growing for exhibition, 88
 Manures—chemical, for coniferous trees, 83; for fruit trees, 93; for a peaty soil, 174; nitrogenous, for fruit trees, 233, 308, 377; for peat plants, 319
 May, the beauties of, 491
 Mease, Mr. W., portrait of, 451
 Medals, offering of Williams' Memorial, 73
 Melons—forcing, 43; growing, 194; culture of, 294; plants injured, 408; drying, for ripening, 445, 495; training, 550
 Memorial tree planting, 571
 Menyanthes trifoliata, 527
 Meteorological (Royal) Society annual meeting, 74
 Mignonette, growing, 564
 Milward, Mr. Alderman, Lord Mayor of York, portrait of, 557
 Monkey Nut, the, 483
 Morinas, 519
 Morris, Mr. John, death of, 183
 Motto for 1896, a, 3
 Mulching and top-dressing, 435
 Murie of potash, 195
 Mushroom spawn, making, 174
 Mushrooms not swelling, 247; in a frame, 293; in fields, the law on, 490; withering, 527
 Myosotidium nobile, 326

NARCISSI and their artistic use, 424
 Narcissus poeticus Dante, 343
 Natural balances, 363
 Nectarine, Rivers' Cardinal, 492; stem and roots dying, 195
 Nerines, notes on, 215
 New year's address, 1
 New York Gardeners' Society, 51
 New Zealand Forget-me-not, 326
 Nuts, Kentish, 26; pruning, 193
 Nycteria selaginoides, 461

OAKLANDS, HARBORNE, 469
 Oak shoots and leaves, galls on, 430
 Observation, the value of, 163
 Odontoglossums, notes on, 173; O. Harryanum, 230; O. crispum Arthurianum, 273; O. excellens, Rosslyn variety, 391; O. crispum augustum, 435; O. lysoglossum, 516
 Olympia, show at, 334, 473
 Oncidiums, Butterfly, the, 438; tigrinum, 430
 Onions—large, 8; raising under glass, 163; culture of, 208; planted out, 333; house raised versus autumn sown, 426; maggot, washing soda for the, 61

Oranges—Tangerine, 9; dwarf, for ornament, 20; in California, the, 170
 Orchards, liquid manure for, 130
 Orchids—Cypripedium Gertrude Hollington, 3; Calanthe gigas, 25; Lælia superbiens, 25; Lælia anceps, 26; Cœlogyne cristata, 47, 160; "the Orchid Hybrids," 47; Cypripedium Euryades, 47; C. Elliottianum, 55; resting, 64; Lyciste Skinneri, 70; Oncidium phymatocillum, roots eaten, 87; Phæio-Calanthe Sedeni albiflora, 93; Les Orchidées, 93; Angræcums, 93; watering, 107; repotting Cœlogyne cristata, 103; Cattleya Trianae alba, 113; repotting and surfacing, 113; leaves spotted, 130; notes on Dendrobiums, 142, 556; D. in-teolum, 142; Kentish Orchids, 142; Cypripedium James Buckingham, 159; at Edgbaston Botanic Gardens, 159; Orchid groups, 159; Cattleya Percivaliana, 166; Cattleya Percivaliana, Ingram's variety, 178; Orchids versus Willow roots, 178; Pleiones, 179; Phaius grandifolius, 179; Orchid definitions, 195; Orchids at Cleveley, Liverpool, 202; Calanthes, culture of, 203; Cypripediums, notes on, 202, 224; C. insignis, 203; Orchids at Highbury, 230; Dendrobium Leechianum, 229; D. Wardianum, 237; Cattleya Schroderae, 231; an Orchid house at Highbury, 235; Orchids for amateurs, 234; Sease's Orchid basket, 247; Chysis aurea, 247; Dendrobium nobile nobiliss, 247; Epidendrum elegantulum, 251; Chysis, 251; Cypripediums, 252; in a frame, 268; spring treatment of, 273; Dendrobium thyrsoiflorum, 274; Orchids at Tipton Court, 302; notes on Aërides, 302, 350; Dendrobium moschatum, 318; Odontoglossum luteo-purpureum, 318; Phalaenopsis Ludemanniana, 318; at Claremont House, Great Grimsby, 318; at Woolton Wood, 350; Dendrobium Clio Tyntesfield variety, 366; Lycastes, 366; at Clare Lawn, 367; at Stamford Hill, 331; Dendrobium pallens, 422; notes on Cattleyas, 422; Dendrobiums, 433; Cambridge Lodge, 428; Angræcum Leonis, 439; an amateur's, 471; Royal Exotic Nursery, 471; Glebelands, 472; Saccolabium amouliaceum, 463; Cypripedium Creon, 467; Oncidium tigrinum, 480; Disa grandiflora, 480; Cypripedium callosum, 450; at the Temple show, 484; newly imported, 516; Mr. W. Bull's exhibition, 516; Odontoglossums at West Mount, Kelvin Side, 537; Odontoglossum macranthum, 537; Miltonia vexillaria memoria G. D. Owen, 537; sale at Ardarauch, 556; at Elstead, 573; Lælio-Cattleya Pytho, 533
 Orton Longneville, a call at, 376
 Osberton Hall, notes on, 82
 Our gardens, 304
 Overcrowding trees and shrubs, 89
 Oxalis versicolor, 119; acetosella, 310

PÆONIES, notes on, 484
 Palms, large, treatment of for decorating, 274; Date, 562
 Pansies and Violas, 559
 Pansy Blue King, 372
 Parsnip wine, recipe for, 333
 Passing the Rubicon, 441
 Paulownia imperialis, 515, 562
 Peach—open air culture, 27; pruning young trees, 120; scale on trees, 130; Early Louise, casting flowers, 263; shoots, diseased, 290; Early Louise, 560; unsatisfactory, 575
 Peaches and Nectarines, 40, 172, 359, 454, 548; derivation of, 86; pruning, 105; fertilising blooms of, 163; casting their buds, 296, 331; notes on outdoor, 303; seasonable hints, 311; leaves injured, 433; management of, 591; dropping and preventive, 591
 Pears—Beurre Perron, 91; double grafted, 233; useful, 239; spurs on, 247; Nain Vert, 256; Josephine de Malines, 384; leaves, red spots on, 408
 Peas—trials in Surrey, 95; jottings on, 124; and nitrogen, 521
 Peckham Ry Park, 452
 Pelargonium leaves blistered, 246
 Pelargoniums, show, 296; decorative, 575

Persimmon, 562
 Phæio-Calanthe seden albiflora, 93
 Phalaenopsis Ludemanniana, 318
 Phallus esculentus, 372
 Phloxes, herbaceous, increasing, 457
 Pines, growing, 39; attention to, 171

PLANTS AND FLOWERS CERTIFICATED BY THE ROYAL HORTICULTURAL SOCIETY—
 Amaryllis—Eros, 237; Rosalind, 287; Hon. Maurice Gifford, 379; Viscountess Hambledon, 379; Anthurium—pumula, 237; Rothschildianum maximum, 237; Rothschildianum elegans, 379; triumphans, 464; Andreanum, Kelly's var. 589; Lawrenceanum, 580.
 Arctotis aureola, 322. Acer palmatum linearilobum, 430. Acanthophaenix grandis, 464. Adiantum lineatum, 464. Alsophila atro-virens, 464. Azalea—Diamond, 464; mollis Mons. Desbois, 464; Asparagus tenuissimus albanensis, 530.
 Bellis perennis The Bride, 237. Begonias—Duchess of Fife, 464; Queen of Begonias, 464; Souvenir de Jean Bart, 464; Phosphorescens, 535. Brodiaea—Howellii Ilacina, 535; ixioidea erecta, 535.
 Cerasus pseudo-Cerasus, Waters' var., 379. Cheiranthus Harpur Crewe, 379. Cineraria double, 379. Cannas—Roi des Rouges, 430; Mad. Pichon, 464; Austria, 535; G. Paul, 535; Thalia, 530. Cardamine Miss Jekyll, 430. Caladium—Duchess of Teck, 464; Silver Cloud, 464; Duchess of Connaught, 464; Sir Julian Goldsmid, 464. Calamus ciliaris, 464. Clematis Crimson Beauty, 464. Cattleyas—Percivaliana, Ingram's var., 59; Trianae alba, 59; Schroderae caloglossa, 287; Trianae Reine des Belges, 237; Wm. Murray var. fulgens, 322; Sir Wm. Ingram, 322; Mossie C. L. N. Ingram, 461; Mossie Arnoldiana, Low's var., 464; Mossie Beatrice, 464; speciosissima Ernesti, 464. Cypripediums—Calypso, 59; Euryades, 59; Miss Minnie Ames, 59; Schroderae candidum, 59; Jamesonianum, 147; hirsutissimum, 237; Exul, Major Joicey's var., 323; Schofieldianum, 379; Cordeani, 464; Cowleyana Annie Louise, 464; superbiens, 530; Neptune, 530. Catasatum splendens leucanthemum, 535. Cyrtanthus parviflorus, 147. Carnations—Countess Carrington, 379; Little John, 464; Loveliness, 464; Cardinal Wolsey, 464; The Gift, 464; Lord Rosebery, 464; Lady Grimston, 464; Mrs. Eric Hambro, 464; Mephisto, 464; Admiration, 535; Delos, 535; Her Grace, 535; Nabob, 535; Ness, 535; Virgo, 535; Hope, 530. Calochortus Eldorado, 530.
 Davallia Truffautiana, 464. Dendrobiums—pallens, 147; Dulcea picturatum, 237; Murrayi, 237; Clio, Tyntesfield var., 323; Wigana, 379; Wigana, Burford var., 379; thyrsoiflorum, 430. Deutzia Lemoinei, 237.
 Epidendrum bicoloratum, 323; Endresio-Wallisi superbum, 379.
 Fritillaria pudica, 297.
 Gloxinias—Stanstead Gem, 464; Adela, 464. Geum Heldreichi, 530.
 Heuchera macrantha, 535. Houlietia tigrina, 147. Hypericum Moserianum tricolor, 464.
 Iris australis, 464; Kampferi Chigo, 530.
 Juniperus communis aurea, 379.
 Lælia—pncipraria Arthur Wigan, 464; p. Lavist, 464. Lælio-Cattleyas—Cicero, 59; highburyensis, 323; Endora, 430; Mardell, 535; Pytho, 535. Leucolum carpathicum, 147.
 Maranta major, 379. Masdevallia Henrietta, 147. Miltonia vexillaria memoria G. D. Owen, 535. Myosotis Rehsteineri, 379. Marguerite nivalis compacta, 530.
 Narcissi—poeticus Dante, 323; Petarch, 323.
 Odontoglossums—Coradini, Rosfeld var., 237; crispum Evelina, 287; excellens, Rosslyn var., 237; Humeannum excellens, 237; Ruckerianum Masoni, 237; spectabile, 323; crispum Princess, 430; Halli grandiflorum, 430; Roezli, Cobb's var., 430; crispum Lowe, 434; C. augustum

PLANTS AND FLOWERS CERTIFICATED—continued.

464; *c. guttatum* Miss Victoria Ellis, 434; *vexillarium Caneana*, 464; *expansum*, 465; *crispum guttatum* Lord Sherborne, 535. *Oncidium Rogersi giganteum*, 465.
 Peonies—The Mikado, 535; Margaret Attwood, 535. *Pelargonium Persimmon*, 535. *Phalo-Calanthe Sedeni albiflora*, 59. *Philodendron Devansayanum*, 465. *Phoenix Roebelinii*, 465. *Phyllocacti-Ena*, 465; ovis, 465; *elator*, 465; *Eurasian*, 465. *Platynerium Veitchii*, 465. *Polygala chamaebuxus purpurea*, 323. *Posoqueria longiflora*, 480. *Primula Dr. Jameson*, 379. *Pterises—Drinkwateri*, 430; *Boultoni*, 465. *Pyretarum Golconde*, 465. *Pyrus malus floribunda Scheideckeri*, 430.
 Radish, Olive-shaped, 436. *Rhododendrons—Schlippenbachii*, 379; *H. M. Arderne*, 465; *Helen Paul*, 465. *Rhubarb—Colt's Seedling*, 430; *Victoria*, 430. *Rosa—rugosa imbricata*, 535; *rugosa*, *Rose Apples*, 535; *Royal Scarlet*, 535. *Roses—Clara Watson*, 323; *Mrs. Frank Cant*, 430; *Grand Duc de Luxembourg*, 465.
 Sonerila Silver Queen, 465. *Stanhopea species*, 323. *Stock Purity*, 323.
Trollius caucasicus Orange Globe, 465. *Tulip, Darwin*, The Sultan, 430. *Tulipas—Eichleri*, 287; *saxatilis*, 430; *vitallina*, 430.
Vandas—Charlesworthi, 59; *teres gigantea*, 430.

Plant distribution, curious facts in, 215.
 Plant houses, 19, 41, 84, 217, 267, 311, 335, 359, 431, 501, 525, 573.
 Plant nomenclature, 1. stability in, 139, 162, 181.
 Plants, for a north aspect, 103; greenhouse, in the summer, 556.
Platynerium Hillii, 497.
 Pleasure and work, 459.
Plumbago rosea, 125; *capensis*, 444.
 Plums thinning, 503.
 Poinsettias, about, 34.
 Pollen, the analysis of, 86.
Polyanthus at Hampton Court, 118, 373.
Polyanthus, gold-laced, 515.
 Pond, cemented, keeping clean, 551.
 Portraits—the late Mr. John Cheal, 189; Mr. A. F. Barron, 375; Mr. W. H. Divers, 415; Mr. W. Mease, 451; Mr. G. Wythes, 540; His Grace the Duke of Bedford, 565; the Lord Mayor of York, 557; Alderman Sir Joseph Terry, 557; Mr. Chas. W. Simmons, 557.
 Portulaca seeds, sowing, 219.
 Potato crop, early, destruction of in Ireland, 421; growths, 561.

Potatoes in pots, 40; early, 241; for "Pommes frites," 312; cheap, 371; time in, 396; and frost, 538.
 Poverty, Progress and Prosperity, 243.
 "Practical Gardener," Carter's, 163.
 Primers, three—greenhouse and window plants, 243; garden flowers and plants, 243; vegetable culture, 243.
 Primroses at Bedford, 373.
 Primulas—double, 27, 329; the utility of, 34; at Reading, 82; culture of, 112; capitata, 209; Bouquet, 224.
 Prospects in the Midlands, 555.
 Provincial shows, R.H.S. deputations at, 387.

RABBITS AND TREES, 57; and wire, 102.
 Railway, companies' new departure, the, 126; rates, 53.
 Rape dust, procuring, 456.
 Raspberries and Blackberries, attention to, 193.
 Rating nurserymen's greenhouses, 64.
 Rating of fruit plantations, 505.
 Reading Gardeners' Association, 141.
 Red spider, destroying, 153; on Vines and Cucumbers, 205.
 Reflections, 11.
 Reinwardtia, 53.
 Reminiscence, a, 236.
 Review of books—"The Food of Crops," 493; "Insect Life," 405.
Rhododendrons, hirsutum, 285; hardy, 531; at Earnock, N.B., 538; exhibition at Birmingham, 572; in Kent, 562.
 Rhubarb, forcing, 101.
Richardia aethiopica, 445.
 Roath Park, Cardiff, 60.
 Rockets, white and yellow, 515.
 Roses—The Rosarian's Year Book, 32; single, 51; and their cultivation, 78; a French National Rose Society, 94; Mr. E. Mawley, 94; useful garden Roses, 94, 167, 186; show fixtures for 1896, 123, 258, 418, 448, 467, 518, 532, 564; N.R.S. at Reading, 123, 532, 564; garden Roses, 123, 137, 285; grafting on roots, 123; culture of Roses, 123; Rose growing, 137; the White Bath or Crested Moss, 167, 233; notes on, 167; the cultivated Rose, 174; *Maréchal Niel*, 208; Hybrid Tea-scented Roses, 238; pot Roses, 239; in memoriam, George Prince, 258; Teas and Noisettes, 258; failure, 268; the late George Prince, 284; Mr. Machin's Roses, 284; the rosarians of France, 285; *ranunculoides*, 305; Old Tuscan, 305; *Maréchal Niel* and *Perle des Jardins*, 305, 400; culture, 305; notes on garden, 332; Rosarian records, Rev. A. Cheales' book, 332; memorial

ROSES—continued.
 to the late Mr. George Prince, 345; hybridisation of Roses, 345; Roses for the garden, 345; Rev. Alan Cheales' paper on Rose culture, 345, 374, 400, 418, 443; yellow Roses, 374; Prince Memorial prize fund, 374, 400, 443; date of Workshop show, 400; the Banksian, 400; *Maréchal Niel versus Perle des Jardins*, 418; Cloth of Gold, 418; occasional notes, 418; Rose changing from yellow to scarlet, 448, 467; Rose thoughts, 448; Rose pests, 467; new foreign Roses, 467, 518; National Society's shows, 492; aphides on, 492; Hereford show, 518; Royalty and Roses at St. Albans, 518; Brockham Rose Association, 564; South-east Rose show, 564; Reading Rose show—the Abbey chapter house, 564; bush, 589; at Colchester, 581; at York, 589; pruning Banksian, 591.
 Rules for judging, 73, 230, 319, 346.

SAGCOLABIUM AMPULLACEUM, 463.
 Salads, spring, 238.
Salvia patens, 425.
 Saturday afternoon holiday, 122.
Saxifraga Stracheyi, 280, 309.
Schizostylis coccinea, 97.
 Seakale on heavy clay, 195.
Sechium edule, notes on, 491.
 Seedling, transplanting, 250.
 Seeds, curious, 539.
 Shamrock, the, 293, 310.
 Shows—Crystal Palace, 265; Royal Botanic, 265; Liverpool, 357; Edinburgh, 358; Brighton, 380; Newcastle, 380; Birmingham, 381; Southern Primula and Auricula show, 381; Auricula (northern section) Manchester, 406, 498; Olympia, 499; Wakefield Amateur Tulip, 500; St. Albans (Bath and West), 548; York gala, 584; Reading, 582; Richmond, 538.
 Shrewsbury Show schedule, 117.
 Shrubbery, beauty in the, 373.
 Simmons, Mr. Chas. W., Secretary York Ga'a, portrait of, 557.
 Single-handed, 223.
 Sowing, early, 96.
 Spinach at Chiswick, 506.
Spiraea confusa, 145.
 Spring, gentle, 26; reverie, a, 293; promises, 371.
 Spring Grove House, Isleworth, 425.
Stachys tuberifera, 30.
 Stakes for trees, 63.
Stenogaster concinna, 521.
 Stephanotis, a floriferous, 490.
 Stocks, summer, 278; growing, Intermediate for market, 502; Purity, 515.
 Straffan Gardens, Kildare, 86.

Strawberries in pots, 40; "sun-spot" or "sunburn" in, 235; in flower, fumigating, 290; notes on, 430; mildew on, 527; Royal Sovereign, 514; early, 547, 563, 582; at Chiswick, 555; Sir Harry, 257; plants, red spider on, 313; unripe, 583; for forcing, 590.
 Streptosolen Jamesoni, 279.
Styrax obassia, 515; *japonica*, 535.
 Sun-burning amongst trees, 493.
 Sunshine and suffering, 577.
 Swanmore Park, 38.
 Sydenham, Mr. R., a visit to, 237.
 Syon House, the conservatory at, 541; portrait of Mr. G. Wythes, 540.

TABLE DECORATIONS, 241, 277, 308.
 Tapton Court, Orchids at, 302.
Tecophylaea cyanocrocus, 307.
 Temple show, 460.
 Tennis lawn, size of, 219.
 Terry, Alderman Sir Joseph, portrait of, 557.
 The Grove, Harborne, 310.
 The leafy month of June, 559.
 Thoughts of the future, 48.
 Tillage, notes on, 134.
 Time, a busy, 474.
Tinnea aethiopica, 81.
 Tomatoes—Duke of York, 59; affected seedlings, 86; open air, 237; soluble cresol for watering, 247; culture, notes on, 252; wide versus closely planted, 360; plants diseased, 361, 457; artificial manure for, 384; plant diseased with black stripe, 400, 526, 544; culture under glass, 433; troubles, 568; mineral constituents of, and supplying them, 590.
 Tomato pit, attention to, 480.
 Top-dressing and mulching, 435.
 Torquay Gardeners' Association, 52.
 Totley Hall and its Daffodils, 404.
 Trees and shrubs, overcrowding, 89.
 Trees, lifting and replanting, 421; in towns, 421; memorial, planting, 571.
 Trinidad in winter, 133; the island of, 192.
 Tuberoses, not flowering, 91.
 Tulips—English show, 260; English, 446; *T. vitallina*, 447; *T. saxatilis*, 447; *T. Darwin*, the Sultan, 447; the florists', 163, 264, 546.
 Tulip Shows—Northern National at Middleton, 523; Butley, 523.

UMBRELLA PINE, the, 515.
 United Horticultural Benefit and Provident Society, annual general meeting, 244.
 Unwritten leaves, 63.

VEGETABLE MARROW, culture, 305.
 Ventilating cool houses, 413, 445.
 Veitch's, Orchids at, 471.
 Vineries, late, 512.
 Vines—management of, 18; heavily cropped, manure for, 29; syringing, 32; forcing, 43; old stem diseased, 43; propagating, 50; exhausted, 69, 72, 90; attention to, 61; chemical manure for, 64, 174; training on the log rod system, 102; seasonable notes on, 105, 151, 193, 245, 289, 332, 573; an old, 117; basic slag phosphate for, 131; the extension of, 163; covering border in the winter, 174; leaves perforated, 196; growing, episodes in, 222; under glass, cultivation of, 276, 326; dis-budding, 313; notes on growing, 342; unsatisfactory, 384, 575; leaves damaged, 384; leaves wasted, 385, 409, 453; notes on, 431; improving, 456; leaves scorched, 463; mildew on, 503; sulphuring hot-water pipes, 503.
 Vintage, the French, 216.
 Violas, in pots, 103; calcarata, 201; National Society, 255; as bedding plants, 355; Countess of Moray, 559.
 Violet culture, 473.
 Violet perfume, 141.
 Violets, caterpillars damaging, 23; seed sowing, 107; notes on, 306.

WAGES AND WANTS, 177.
 Wakefield Paxton Society, 75; 117; report of the Committee and the anniversary dinner, 354.
 Wallasey, new park for, 95.
 Wallflowers at Ingestre, 452.
 Water against frost, 171; softening, 394; deficiency of storing, 577.
 Watering, jottings about, 473.
 Westhill, Edgbaston, 571.
 Whetstone, Birmingham, a visit to, 394.
 Winter moth caterpillars, 256.
 Wireworm, trapping, 445.
 Women gardeners at Kew, 16.
 Woolton Wood, Orchids at, 350.
 Work and pleasure, 459.
 Wright, Mr. S. T., presentations to, 5.
 Wythes, Mr. G., portrait of, 540.

YORK SHOW schedule, 117.
 York—The gala, 533; portraits of the Lord Mayor, 557; Alderman Sir Joseph Terry, 557; Mr. Chas. W. Simmons, 557.



ILLUSTRATIONS.

	PAGE		PAGE		PAGE
Anemone vernalis	223	Fence, rabbit proof	57	Peach, Alexander, bearing shoots	331
„ polyanthes	259	Forget-me-not, New Zealand	327	Pear, Beurré Perrou	91
Angræcum Leonis	439	Fritillaria pudica	295	Phaio-Calanthe Sedeni albiflora	99
Apple, Lord Hindlip	69			Platycerium Hilli	497
„ Royal Late Cooking	135	Grafting, wedge	337	Portraits of Mr. John Oheal	191
„ Goodwin Pippin	263	„ an unusual mode of	355	„ Mr. E. Molyneux	213
Auriculas, Mrs. Heuwood, Midnight, and Dean Hole	399			„ Mr. A. F. Barron	375
				„ Mr. W. H. Divers	415
Begonias, Frœbeli incomparabilis	33	Hedychium Gardnerianum	239	„ Mr. W. Mease	451
„ tuberos rooted	243	Hepatica angulosa	165	„ Mr. Geo. Wythes	540
„ Winter Gem	125	Highbury, the mansion	227	„ Lord Mayor of York (Mr. Alderman	
Belvoir Castle, plan of spring flower bed	427	„ the corridor	234	„ Milward)	557
		„ an Orchid house	235	„ Alderman Sir Joseph Terry	557
		Hydrangea involucrata vera	103	„ Mr. Chas. W. Simmons	557
				„ His Grace the Duke of Bedford	565
Caen Wood Towers, the mansion	509	Iris Robinsoniana	569	„ Sir Trevor Lawrence	581
„ „ Magnolia conspicua	517			„ Mr. P. Crowley	584
Calanthe gigas	25	Jamesia americana	37	„ Rev. W. Wilks	585
Catalpa bignonioides	121			Poverty, progress, and prosperity in cultivation	213
Cattleya Trianae alba	113	Lapeyrousia corymbosa	379	Primula Bouquet	225
„ Percivalliana, Ingram's var.	179	Leucium carpathicum	169	„ capitata	209
„ Schrödera	231	Liliums and Rhododendrons at Newstead Abbey	187		
Chorozoma cordatum splendens	403	Lithospermum prostratum	475	Rabbit-proof fence	57
Chrysanthemums, Mons. Chenon de Leche	11	Lælio-Cattleya Pytho	588	Reading Abbey ruins	533
„ Bonnie Dundee	77			Rhododendron hirsutum	285
Cucumber, root disease	13	Magnolia conspicua at Caen Wood Towers	517		
Cuttings, simple method of rooting	243	Miltonia vexillaria memoria G. D. Owen	537	Saccolabium ampullaceum	463
Cypripedium Gertrude Hollington	3	Myosotidium nobile	327	Saxifraga Stracheyi	281
„ Euryades	47			Spiraea confusa	145
„ Elliotianum	55	Narcissus poeticus Dante	343	Stenogastera concinna	521
„ James Buckingham	159	Nectarine, Rivers' Cardinal	493	Styrax japonica	585
„ exul, Major Joicey's var.	319	Newstead Abbey, Liliums at	187	Syon House, the conservatory at	541
„ Creon	467	Nycteria selaginoides	454		
Oytisus scoparius Andreanus	462			Tapton Court, Orchids at	303
				Tecophylæa cyanocrocus Leichtlini	307
Dendrobium luteolum	143	Odontoglossum Harryanum	230	Tiunea æthiopica	81
„ Veitchianum	229	„ crispum Arthurianum	273	Tomato Duke of York	59
„ Wardianum	237	„ excellens Rosslyn var.	391	„ black stripe in	544
„ Olio, Tyntesfield var.	367	„ crispum augustum	485	Tulips, vitallina, saxatilis and The Sultan	447
„ pallens	423	Orchids, Sease's basket	247		
„ nobile	471	„ at Tapton Court	303	Viola calcarata	201
		„ Woolton Wood	351		
Epidendrum elegantulum	251			Woolton Wood, Orchids at	351

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THURSDAY, JANUARY 2, 1896.

NEW YEAR'S ADDRESS.

FOR many years it has been my privilege to address a few words at the opening of the year to the readers of our Journal, but the very fact of its having been so often done led me to very serious questionings as to the propriety of my continuing to do so. Were there not, I thought to myself, many younger contributors, who with fresher views and readier pen, might take up a different standpoint, and so get out of the groove into which I have probably too long run. On, however, placing the matter before those who bear rule in our little republic, and pressing the matter upon them with becoming modesty, I received such complimentary expressions that I quite blushed, and such assurances of hearty desire that I should continue, that I could not resist, and, therefore, if I fail to interest my readers they must lay the blame, at least, partly on those who declined to take my excuses for retirement.

According, then, to my usual custom, I look back upon the past year to see what it has done for horticulture, and naturally one's thoughts revert to that which is, and ought to be, the great centre of horticulture in these kingdoms—the Royal Horticultural Society, and here we have witnessed a revolution somewhat like those which agitate the South American Republics from time to time, for the retirement of Mr. Barron is indeed of such a character. It will ill become me to discuss the subject in such an address as this, but when one has served a Society like this for thirty-five years, through evil and good report, it is no wonder that expressions of regret at his retirement should be heard on all sides. To my mind, as I look back upon those thirty-five years, during which I have known him, there is one trait in his character which seems to me to stand out prominently above all others, and that is his unshaken loyalty to the Horticultural Society, whose servant he was. During the disastrous days of the South Kensington epoch a less loyal man might well have asked himself, What good can I do by sticking to a ship whose planks are rotten, and whose officers and crew are incapable of action? But no, he stood by her and saw the old vessel refitted, new officers



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and crew manning her, and again becoming a power in the horticultural world. He has many years of usefulness before him, and I have no doubt will give a loyal and steady support to his successor. He has seen many disastrous failures in the exhibitions of the societies, such as those of Liverpool and Preston, and he has had no little share in the success which has attended the exhibitions in late years in the Temple Gardens.

The grand idea which originated some years ago with Baron Schröder and others of a hall in which the Society might hold its meetings and exhibitions is no longer heard of, and I think that its failure is no small disgrace to horticulture. There are some half a dozen Fellows of the Society to whom it would be nothing to take the matter in hand themselves, and so wipe away a stain which rests on the patrons of horticulture in the metropolis. So still is the Society doomed to that dreary Drill Hall, where its exhibitions, beautiful and varied as they are, certainly gain nothing from their surroundings. These exhibitions, or fortnightly meetings as they are sometimes called, have been well upheld during the past year; but, alas! how few take the trouble of going to see them. Surely we might hope that the Fellows of the Society who live in or near London might with their families gain much pleasure and profit from attending such meetings. At Chiswick various flowers, vegetables, and fruits have been grown and subjected to critical observation, and no doubt in this respect the Gardens are doing useful work, and will do more, even if they are very much surrounded by buildings.

The show at the Temple, favoured as it was with fine weather, was an unqualified success, and in a financial point of view I believe the best that the R.H.S. has ever held. Of course, it must follow very much on the lines of its predecessors; but there are always novelties which help to keep up its interest, and I think it shows not only an interest in horticulture, but great loyalty to the R.H.S. that so many exhibitors are willing to come forward and put themselves to so much trouble and expense without any money prizes being offered, and with only the inducement of a few silver cups held out to them. This is one of those cases in which the tried experience of Mr. Barron has been found so useful, and where he will be most sorely missed.

Turning to the Royal Botanic Society we find ourselves in the region of clouds and darkness. The Gardens, so beautifully laid out by Robert Marnock, are each year increasing in beauty, and afford a pleasant promenade for the bourgeoisie inhabitants of the neighbourhood; but as to the benefits that it confers upon horticulture one utterly fails to see where they are; nay more, it has degraded horticultural exhibitions by its ridiculous fêtes, where donkeys, ponies, and carriages florally decorated (?) compete for prizes, thus copying one of the worst examples of our Gallican neighbours. It has now evidently got into shallow waters; prizes are unpaid, and it talks of asking for Government aid. This is a daring flight; for surely if such aid is to be granted to any society it ought to be able to better justify its claim. But I do not suppose there is any probability of the Government acceding if the request be made, it being contrary to the practice of our nation to give Government aid, as is done abroad, when private enterprise can be relied on. The Horticultural Club, which will attain its majority in 1896, for it was founded in 1875, has been doing its useful work; it has brought together in social intercourse horticulturists of all kinds, both home and foreign, while the papers read at its monthly meetings, and the discussion from them, have distributed much useful information to the horticultural world.

The general taste for horticulture has not been much "depressed" during the year, as is evidenced by the condition of some of those special societies which exist for the advancement of its industry; and certainly foremost amongst these must be reckoned the National Chrysanthemum Society, which not only held this year the best exhibition that it has ever had, but is about to commemorate next year its jubilee by such a schedule as no special society has ever before issued. The National

Rose Society has also done well, although it cannot command so large a *clientèle*, from the very fact that Roses cannot be grown where Chrysanthemums can. The National Carnation and Picotee Society also seems to be in a flourishing condition, and will also increase its schedule next year. The National Dahlia Society still exists, and held a good exhibition last autumn; while horticultural societies throughout the kingdom have had as usual their fluctuations as far as exhibitions are concerned, and I fear that it is more evident every year that something must be added to the ordinary attractions of a flower show to make them palatable to the general public. Music has always been considered a legitimate item, but in many places this has not been thought sufficient, and York and Shrewsbury both witness to the extent to which these adjuncts are used.

We have again witnessed one of those changes in public taste which has so often affected horticulture. I think we may say that the Daffodil craze is over. I do not mean that it will cease to be a very favourite flower; but the catalogues of 200 or 300 varieties, and the high prices at which some of them were fixed, are things of the past. When we do get hold of a hobby we generally ride him very hard, and so it has been with the Daffodil. There is no doubt that the interest which it has excited has greatly tended to the enlarged growth of a most beautiful flower, and has brought out many varieties which have heretofore been unknown. But unquestionably the Chrysanthemum must take the first place in public favour and estimation, especially as judged by the number of certificates awarded, for I find that there have been no fewer than sixty-three. How utterly impossible for an amateur to keep up with such an addition to his stock, and one may ask, I think, whether there might not be a more sparing distribution of honours. These new varieties are mostly in the Japanese section, and there really seems to be no limit to its variation. How far ahead it stands in this respect above other flowers is shown by the fact that only ten Dahlias and seven Carnations have received the same honours.

Turning from the more humble florists' flowers to the aristocratic denizens of the greenhouse and stove, we find that Orchids still hold the highest point in favour, and that of these some families stand pre-eminent; thus of Cattleyas twenty-seven have been certificated, of Cypripediums twenty-six, and of Lælias twenty-two. Florists have sometimes been soundly rated by puerists for their multiplication of varieties, but I think this is a tolerably good record of the Orchid grower. Nothing specially remarkable has been brought forward among ordinary stove and greenhouse plants. Amongst half-hardy plants the dwarf or Gladiolus-flowered Cannas have greatly increased in beauty and popularity. Both foreign and English growers have been engaged in raising new varieties, and many of these are most beautiful, both in flower and foliage; while there is said to be another race taller, with the same fine flowers, which probably will become suitable for decoration in summer; while the dwarfer section is not only good for the same purpose, but is also under proper treatment available for pot culture in the winter.

The most noticeable literary feature, as far as matters with gardening are concerned, is the completion of the "Index Kewensis," which is a monument of painstaking research and diligence, of which both the Royal Gardens and the compiler may well be proud; nor must the "History of Gardening," by the Hon. Miss Amherst, be overlooked. Mr. Foster-Melliar's "Book of the Rose" belongs rather to last year than this, but it has certainly increased in popularity, and must be considered a standard in all matters pertaining to the Rose. The gardening press still flourishes and the Journal shows no symptoms of decrepitude, though some of its contributors, myself included, have got into the sere and yellow leaf, and the others whose power is apparent, maintain their separate and well-defined positions.

I now come to that which is always the most painful part in my New Year's address—namely, the roll call, and the marking out

of those who have fallen from the ranks during the past year. Many a good gardener whom we have been wont to hail as a past master in the art has passed away from amongst us. In William Thomson of Clovenfords we have lost one of two brothers whom, I think, everybody recognised as the very princes of horticulture; David Thomson of Drumlanrig still survives, a noble sample of that race which has done so much for the advancement of gardening. Then we have lost Thomas Baines, a figure long familiar to us at all our metropolitan meetings, probably one of the most accomplished and successful growers of greenhouse plants that we ever had. He will be remembered by us of the older generation as the winner of the Davis prize, in which he showed in how short a time those large specimens, of which he was so successful an exhibitor, might be brought to their highest point of excellence, and he was a most valuable member of the Floral Committee of the R.H.S., as his knowledge of plants was most extensive and accurate. In Mr. Bause we miss (I say *we*, although he was a German) one of the most successful hybridisers of foliage plants; in fact, I think I may say *the* most successful one. Many may remember the sensation created in the horticultural world when his seedling Coleuses, six in number, were sold for the marvellous sum of £250. He was also a most successful raiser of Caladiums, Dracaenas, Crotons, and Ferns. In Mr. William Dean horticulture has lost the oldest of a band of three brothers, who by their pens and active energy have done much to advance its interests, especially in the section of florists' flowers. Mr. Peter Grieve occupied a conspicuous place many years ago, when by a fortunate break he introduced the section of golden tricolor Pelargoniums, which for a long time were in great favour, but are now very little seen. Mr. Joseph Lakin was known as a successful raiser and grower of Carnations, Picotees, and Tulips; while the last days of the year have taken from us one of the best practical gardeners of his day, Mr. R. Gilbert of Burghley. His forte was not flowers so much as vegetables and fruit; he was a frequent contributor to the pages of the Journal, and was one of the valuable race of practical, hardworking men, who did much of his own work and encouraged others to do theirs.

Having thus briefly reviewed the past year, I must say a few words in regard to the future. Happily that future is unknown to us. There seems, however, to me to be a steady onward progress in horticulture, and no diminution of interest in those who are engaged in it. I see, however, no symptoms of anything very startling to disturb our quietude in the year that is now opening upon us. Our first thought ought to be, I think, for the veteran leader of our Journal corps, and I am sure I but echo the views of all readers in hoping that he may be long spared to keep us in order. I am, I suppose, now the oldest contributor to his pages; when he talks of taking off his harness I shall very soon have to follow suit. And to all our readers we must earnestly wish success in the pursuit of their separate fancies in horticulture; it may be a flower or a Fern, or some fruit or vegetable, and it is strange to see whither their fancies lead them, but there is no doubt that such fancies do tend to the advance of the science, and it is one great comfort connected with it that it can be followed by the old when other things fail them. Men advanced in years would hardly set out to capture the Purple Emperor, but they can enjoy their flowers at home; and so I may well wish them success in their pursuit. Failures and disappointments I dare say you, my friends, may have, but don't be faint-hearted, for it is often through these that our most successful efforts come; your tastes hurt no one, and are in themselves good, while you may learn many a valuable lesson by watching the caprices and likes and dislikes of your favourites; and

so, amidst the storms and varying scenes of this our mortal life may your flowers suggest to you thoughts of Him who has clothed the earth with so much beauty, and would lead you on through His earthly gifts unto those higher and better treasures "which are at His right hand for evermore."—D., Deal.



CYPRIPEDIUM GERTRUDE HOLLINGTON.

EXHIBITED at a meeting of the Royal Horticultural Society during the early part of the summer of 1895, this hybrid Cypripedium attracted attention and was greatly admired by both experts and visitors. Resulting from a cross between *C. ciliare* and *C. bellatulum*, both flower and plant partake of the character of each parent. The flower, as may be seen by the accompanying woodcut (fig. 1), is broad and of stout texture, and should last for some considerable time after expansion. The dorsal sepal is white tinged with green and striped with dull red, while the pouch is of the latter colour and of medium size. The ground colour of the



FIG. 1.—CYPRIPEDIUM GERTRUDE HOLLINGTON.

petals is a rather dirty white, and very heavily spotted with brownish red. They are broad, slightly drooping, and very substantial. This Cypripedium was exhibited by Messrs. H. Low and Co., Clapton, and received a first-class certificate from the Orchid Committee of the above Society.

HONEST WORK AND HONEST WORKERS.

A MOTTO FOR 1896.

THE facile hand, and "the pen of a ready writer," give us in the last issue of this paper a complete and thorough *resumé* of the work done and attempted during the past year. How gracefully he thanks friends and contributors, and how neatly he touches on the gentle reproofs and tender hints of those who with such sharp eyes have discovered (or thought they discovered) the weak places in the joints of his harness. It is great audacity for me to attempt such a thing, but at this season of goodwill and charity one's heart is moved, and I would fain offer kindest greetings to those who with me enjoy their weekly feast of the good things which issue every Thursday morning from the offices at No. 171, Fleet Street.

We are so quickly approaching the coming of the New Year, that in fancy we can hear the regular sweep of his wings. The New Year, laden with so many hopes and fears; the New Year,

that to us, who are in the vale of life, comes so swiftly and so often. What portion has he for us—pain or pleasure, or such a blending of both, that we know not where one ends and the other begins? One blessing he brings, the greatest of all—honest work for honest workers. Call work a curse; why how ignorant you are! Half-hearted work may be, and is; also very excessive slavish work, that crushes out life and spirit. But speaking principally to and of the great gardening brotherhood, I challenge all the world to prove me wrong, and to say if the heritage of “the grand old gardener,” our common sire, has ever pressed too heavily on any one of them. I do not mean that they have never felt over-tired, else they would not be human; but never are they so disabled that they cannot rise again. Why the very fact of living in touch with Nature’s God means life, and that life of a high and noble kind, above all petty sordidness and meanness. “In all labour there is profit.” Then spend and be spent, so that the reward of your labour may be full and satisfactory.

The wide circulation of this paper brings it within the reach of “all sorts and conditions of men.” You great potentates of the gardening world need not, however, glance at this. My words are for the lowly in station, the class of men I know best, single-handed, with glass, flower, and vegetable dividing their attention, and to the man who is groom and gardener in one. Your situations spell “Work,” and you do the work well as far as your knowledge carries you. There is as much praise and credit due to you for your healthy vigorous Cucumber plants and your neat pretty beds of cheap annuals as there is to “My Lord’s” gardener with the product of his costly vineries and priceless Orchid houses. Work and common sense must go hand in hand. In most rural districts now we have all had the chance of attending horticultural lectures, all good, and most of them highly interesting, and there are also many excellent gardening manuals published at so cheap a price as to be within the reach of everyone. What you do read digest, and then commit to the store-room of your mind. Beware that mind does not become a lumber-room; order is one of Nature’s first laws. Do not sit down whimpering because the frost is likely to injure your young and delicate plants, rather devise some light shelter for them. You may not be able wholly to save them, but much may be done by a little timely protection. Seeds may be of the very best quality, but they do not thrive in company with twitch, nor on poor ill-till’d soil, neither will all the best tilling in the world save your early Peas from the ravages of the sparrow if you forget the necessary larch boughs or bit of wire netting. Weak, spindly plants by no miracle can be turned into stiff, sturdy growths, and unpruned fruit trees are usually not productive.

Drought may come and do some unavoidable injury, but not much to that garden which is rich and fat; and even the commonest Roses in your little domain will be less subject to mildew and insect filth if planted in an open situation, freely manured and freely “cut back.” If you could but realise it, you small men, with your little but good tray of vegetables, your boxes of three, six, or twelve blooms are the strength of the small rural shows. Do you not know the villagers are much more interested in exhibits by one of themselves than in all the costly exotics from the “squire’s garden.” Potatoes and Beans, Stocks and Asters, come home, as it were, to them, and are felt to be within the reach of the many, and a stimulus is given to greater effort, and effort is always healthy.

May this New Year find us all with a keener appetite for work than ever—work that, done honestly and with a “single eye,” will meet with the approval of the Great Master, who appoints to each servant (however humble) his task.—H. G. F.

CHISWICK.

A LAST LOOK ROUND WITH MR. BARRON.

THOUGH we shall hope to meet our friend, the late Superintendent, from time to time on the familiar ground of his labours in connection with the Fruit Committee, his last official guidance was, in one sense, enjoyed, in another regretted, a few days ago. Mr. A. F. Barron’s retirement from Chiswick is essentially historical in its character. He leaves the garden strong in the strength of his life’s work, and his name is a household word in the domain of horticulture.

Until yesterday Mr. Barron was by far the oldest official of the Royal Horticultural Society. He not only formed and planted the Garden as it exists now, but was Superintendent of the larger Chiswick when the grounds were more than 30 acres in extent; also of the costly gardens at South Kensington, the demands of which brought Chiswick down to less than 12 acres—a valuable area still, compact and serviceable, not to say indispensable, to the status and authority of the Royal Horticultural Society. Seeing,

then, the far-reaching scope of Mr. Barron’s work, and his unparalleled term of service, the event of this week must of necessity mark an epoch in the annals of the Society, which he served so long and so well.

Mr. Barron retires in ripest manhood and with honours; the first conferred by the Council of the Society, and rarely bestowed—an honorary Fellowship; the next by those who lived the closest to him—the workers and students in the Gardens, who each joined in the presentation of a handsome drawing-room clock with an appropriate inscription; and there remains still to follow the result of the remarkable expression of public feeling which has surprised him so much. But enough has been said in that strain at present. The late Superintendent of Chiswick is one of those persons who courts no praise; and, correlatively, he is slow, very slow, to make other than friendly references to his contemporaries. If a still tongue make a wise head, then is Mr. Barron wise.

In this last look round in his company not one word was uttered that would have been distasteful to any individual or corporate body. His mind was on the work he had done, and the possible results in the future. It is certain he will not cease to take interest in the Gardens which he has left, and which he, in one sense, can still “overlook”—namely, from the windows of his pleasant home; while he will give his services on the Fruit Committee to the Society, to which he belongs, and that he desires to see increasingly prosperous and useful.

One way, if not the chief way, of contributing to its usefulness, is in the maintenance of the famous old enclosure in the best possible state of efficiency for the work it is capable of doing. It is not suggested that any disposition exists on the part of the Directorate to do otherwise. As a matter of fact, the gardens are in a better state than they were a few years ago, because of the better condition of the structures on the whole and means applied generally. With the exception of two lean-to houses, which are not a standing, but a tumbling down disgrace to the establishment (some-what of a puzzle as to whether it would be best to remove or restore them), it cannot be said that the long ranges of pits and larger structures are in otherwise than in good working condition. Some are permanently occupied, others afford shelter to a shifting population according to the demands of the time and the object in view.

The great vinery stands alone in its glory, and is unique of its kind, but not the most useful. It cannot be an easy house to manage, and when it is remembered the Vines were there thirty-five years ago, and that the roots are no one knows where, it will be conceded that they have “lasted” well—mainly by the systematic extension of young canes and gradual removal of exhausted rods, with otherwise good management. In no other way could good crops of useful, saleable Grapes have been produced throughout the long period indicated. Whether this huge structure will always be a vinery (plus a grand show house for Apples and Pears), or whether it is thought it would make a noble orchard house, time alone can tell. Changes are expected, but their nature seems to be a profound secret. The only thing that can be learned by the most insinuating inquiries from anyone who is supposed to be likely to know something is that “nobody knows nothing.” That is the most definite information that can be elicited up to date regarding the policy of the Royal Horticultural Society. It is a “still tongue” policy so far, and therefore *ought* to be “wise.”

Then there is the Fig house, a fine roomy, light, span-roofed structure which in the season, but not now, contains the finest collection of Figs in the kingdom. They are grown in pots and bear prodigiously. There are some sixty or seventy varieties, but while the trees get larger the house does not—a difficulty that will have to be met, and it is hoped surmounted, while the collection will be maintained in its integrity. To weaken it would be, in the estimation of many, a change in the wrong direction, and we do not suppose it will be made, but some of the large trees may have to give place to smaller of the same varieties. The house was gay with Chrysanthemums a while ago, and the cut down plants remain still, while the Fig trees are resting in the Muscat house.

This also is a fine “span-roof,” and when it is considered that the Vines have had to share the border and the house with Tomatoes, and these latter grandly grown, it will be admitted that the former—the Muscats—have struggled bravely in the contest for the survival of the fittest. They are stout and strong, trained horizontally across the house forming a flat ceiling of greenery and golden fruit in their season. The Vines have produced a good crop this year, and may be expected to yield better with the house to themselves—that is, if they remain. The structure was previously an orchard house, and as such a good example of failure.

There are two other structures devoted to Vines—one a curvilinear lean-to containing several varieties, the other a long narrow case devoted mainly to Gros Colman. Very fine Grapes have been grown here, practically in the natural soil, with such additions as could be scraped together, no “made” border on

orthodox lines. But the Vines are altogether too cramped; still, by the practice of training in young canes and removing spurred rods, they may continue to be useful. It is not easy to see to what better purpose such a mere glazed corridor could be put, but we live to learn.

There is a long low Peach house—too low; not in the structure alone, but the site. The trees grow well, make fruitful-looking wood, but the promise of spring in abundant blossom is rarely fulfilled in full crops of fruit. The roots are in a pit, much below the ground level—exactly what the Peach does not like.

The latest novelty in glass structures is a curvilinear wire tension span-roof. This is the lightest house in the garden by far—rigid, strong, and in its sustaining parts practically indestructible. Not a square of glass has been broken by storm or frost, but two or three have yielded under the influence of heat, or expansion of the framework. This is an experimental house—one of the first erected, and such contingencies provided for, also the ventilation perfected, as now shown in advertisements, the structures will answer admirably for all fruits and plants that require the greatest amount of light for their highest development. This particular house was devoted to Tomatoes in pots during the summer. The growth was unusually firm, free from disease, the fruit abundant and highly coloured.

Plant houses. There is only one worthy of the name—the “Paxton” span-roof in two divisions; but we have seen very good Cannas in another, while there are Palms mainly in a third, kept in case they may be wanted for furnishing on any special occasion, and Pelargoniums in a fourth. There are also long propagating pits, one for increasing soft-wooded plants the other for raising Palms and Ferns, chiefly for distribution among Fellows. There is no plant stove at Chiswick in which to grow specimens, and none is wanted. Such plants could be of no service, and their production would amount to a waste of space and labour.

The “Paxton” house has been gay this last summer, one end with the newer Cannas chiefly, the other with a collection of Fuchsias. In some years the compartments have been occupied with Begonias and Ivy-leaved Pelargoniums, indeed most kinds of plants for which the house is adapted, have been grown from time to time for the comparison of the then new varieties. However, in the ordinary acceptance of the term, Chiswick is not a “plant place,” and cannot be made one that would in any sense be worthy of the fame of the garden or of the name of the Royal Horticultural Society. There are plenty of plants near by—at Kew.

Even the Paxton house would be far more usefully occupied with varieties of Cucumbers next year than with Cannas or Fuchsias, while these would grow outdoors in summer as well as under glass. There has not been a trial of Cucumbers at Chiswick for thirty years. At present varieties are bewildering, and names confusing. There is little choice of suitable structures for such a trial, but the Paxton house might be made to answer well, under what gardeners call “late planting,” by which the finest of crops are obtained.

Outdoors the work at Chiswick is well advanced. There has been no spurt to make a show. The ordinary routine has been pursued, and though a great deal of pruning and digging is done, there will be something left to keep the new Superintendent in exercise in seeing that everything which needs attention receives it in due season. He will take to a grand collection of pyramid Pears, the oldest trees presented by Dr. Hogg more than thirty years ago, planted and trained by Barron, who also raised as well as trained the remainder, and he has reason to be proud of them. When in blossom they are pyramids of silvery beauty, models in form and fruitfulness.

Mr. S. T. Wright will also find a plantation of dwarf Apples, not trained to any ideal form, or anything of that kind, but for bearing; and they have never failed for nearly twenty years, no matter what the weather. In the worst of bad Apple years these trees have surprised both their grower and visitors by bearing good crops of excellent fruit, and have been unquestionably profitable. The new gardener—for a “gardener” he is, and a good one, who can desire no more honourable appellation—will also find another plantation of the same varieties of Apples all grafted and planted at the same time on different stocks that will puzzle him. The stock “influence” may be found exactly what he expects in one case, and just what he does not expect in another. He will find the growth of some Apples all alike on all the stocks, from the miserably weak (ungrafted) Pomme de Paradis to the free-growing Crab; generally speaking, the stocks have “mastered the scions”—so far; and, although the trees are in a bearing state, we must await developments.

The new Superintendent will find a wall of double grafted Pears that will please him—young trees raised in the Gardens, and fan-trained Plums in choice varieties with which he will not find much fault, also a new plantation of bush Plums which he can mould to

his liking. He will perhaps learn a little lesson in Morello Cherries, and there he will see the influence of stocks. There are trees on the ordinary Cherry stock, on the Kentish, and on the Malaheb, those on the last named stock being of twice, thrice the size and value of the others. The system of Peach training will commend itself to him as simple and well suited to the representation of a number of varieties on a limited length of wall. Each tree has one stem only, trained obliquely, the trees 3 to 4 feet apart, the bearing parts trained in the spaces between herring-bone fashion. It is an excellent plan easily carried out and it is a little surprising not to find the system adopted in many gardens.

A large collection of Red and White Currants will prove interesting in due season, and Mr. Wright probably knows, what hundreds of persons do not, that the grand fruited La Versailles, so imposing on the exhibition table, is the most awkward of all in growth, the summer shoots bending down and twisting about on the ground as if in trouble because they could not bury themselves in it. He will find clean and interesting standard Gooseberries ready for removal. They are grafted on stocks of Ribes aureum grown from cuttings. These make clean stems quickly. Gooseberry scions take to them well, and grow freely. The stems are 3 to 4 feet high. He should raise a number of Red Currants in the same way, and so should nurserymen for sending all over the country. Such trees are ornamental, useful, and convenient for certain positions in gardens generally.

But though Chiswick is not a “plant place” (under glass), there is no lack of flowers in the garden in summer in the beds and in the trial ground. Extensive named collections of Irises, Phloxes, Pæonies, Asters, Helianthus, and others which, with trials of annuals, display a combination of beauty with utility. The mention of beds reminds us of those filled with Tea Roses, the growths drawn together loosely with matting the better to pile cones of coconut fibre refuse 6 or 7 inches up the stems. Let the winter be ever so severe these Roses are safe. They may be killed down to the fibre, but not within it. Cut them down in the spring and they will grow more vigorously, and produce finer blooms abundantly, than if they had not been frozen or cut down at all. There is no neater and better way of protecting Tea Roses than that. Dahlias in their season make a brave show, and there appears to be an extensive collection of Clematises.

Vegetables are “off” now, but in the summer the trials are always interesting and instructive. These prove how many more names there are than distinct varieties of the different kinds; but still there are always some that are worthy of special recognition. The trials are conducted with absolute fairness and impartiality, and those vegetables which pass the ordeal with honours are stamped with the highest hall mark of excellence that can be conferred in this country.

Mr. Barron’s successor is reputed to be great on insects. It is said he does not like them and they do not like him. He will be disappointed if he expects to find many to kill on plants, Vines, or trees; yet there is a stock—as good a sample as he could wish to practise on—in a remote corner. He will have a chance of dealing with a generally unconquerable pest when the attack is virulent—the Black Currant bud or gall mite—and will do a public service if he prove the victor without destroying the bushes in this case.

The garden is a garden of variety and emphatically of usefulness. As has been previously said, it is becoming more and more of a town garden. When Mr. Barron entered on his duties the surrounding population numbered only 5000; it is now nearly 40,000. This means that the fine open space is the more valuable. With good support and under the best management it may remain productive and prove instructive to students within its walls and the public outside them everywhere for years to come. In point of fact, though Victoria Street, Westminster, is the headquarters of the Royal Horticultural Society, yet in the estimation of the great body of earnest horticulturists Chiswick is its heart.

And now, as we would speed the parting guest, who has won well-merited rest from the anxieties inseparable from the position, and wish for him everything that can conduce to a long and happy life, so would we welcome the coming guest and bespeak for him, not any special favour, but a fair field for the display of his abilities, in the hope that time will prove him a worthy successor of a worthy man, and that the reputation of the grand old Garden will not suffer in his keeping.

PRESENTATIONS TO MR. S. T. WRIGHT.

BEFORE Mr. S. T. Wright left Herefordshire to take up the duties of his new appointment as Superintendent of the Royal Horticultural Society’s Gardens at Chiswick a desire was naturally felt by horticultural friends in the county of Hereford to testify their personal esteem for him, their admiration of his extraordinary success at Glewstone Court Gardens, near Ross (the residence of Mr. C. Lee Campbell), as a grower,

exhibitor, and market supplier of fruit, and their appreciation of the material help which he has given to other growers by his published articles and personal advice. It was expected that Mr. Wright would shortly be leaving for his new sphere of labour, in consequence of which there was no time for an extended canvass of his friends in this and surrounding counties. Mr. John Ough, of Hereford, who acted as hon. secretary, therefore confined the testimonial to a more central area, which culminated in a very gratifying and enjoyable presentation, for it was arranged by Mr. Ough and a presentation committee consisting of Messrs. John Watkins, R. Grindrod, John Wilson, Charles Williams, Charles Whiting, and W. Nash, that the testimonial should consist of a timepiece and a framed address, to be presented at a complimentary dinner. The Committee selected from designs submitted to them by Mr. J. Coates, jeweller, of Commercial Street, Hereford, a handsome dining-room clock, for which Mr. Coates specially telegraphed to the manufacturers. It is a 14-day timepiece, striking the hours and half-hours on a gong, and is set on a massive black marble stand, fashioned with pillars like the front of a building in the Corinthian style of architecture; around the pillars are gold bands, and at the base of the marble is a silver plate engraved with the words, "Presented to Mr. S. T. Wright, by his Herefordshire gardening friends, as a token of regard, December 21st, 1895." Mr. W. J. Davies of Hereford was commissioned to execute the address, which he has written in an exceedingly neat and artistic style in rose, green, and blue, with slight foliage ornamentation, surrounded by a border of black lines. It is framed in oak, and reads as follows:—

Presented to Mr. S. T. Wright, F.R.H.S., by the undersigned gardening friends in the county of Hereford, together with the accompanying timepiece, upon the occasion of his appointment as Superintendent of the Royal Horticultural Society's Gardens at Chiswick, as a mark of their high regard for his merits, and with their best wishes for his future welfare.

The signatures to the address are John Cranston, F.R.H.S. (Chairman), John Watkins (Vice-Chairman), John Ough, F.R.H.S. (Hon. Secretary), E. E. Bosley, S. M. Biggs, James Davies (Bodenham), Alfred Guyott, Henry Godwin, F. Harris, Robert Grindrod, Arthur Johnson, F.R.H.S., Henry Langston, W. Nash, William Parry, J. Randall, W. J. Sherlock, P. MacCabe, Henry Stokoe, A. Ward, John H. Wootton, John Wilson, Charles Whiting, Charles Williams. Hereford, December, 1895.

The dinner, at which the presentation was made, took place at the Old Harp, Hereford, on Saturday afternoon last. Mr. John Cranston, formerly of the world-famed King's Acre Nurseries, occupied the chair, Mr. S. T. Wright, as the guest of the evening, being on his right. Mr. John Watkins, founder of the Pomona Farm Plantations, Withington, took the vice-chair.

Letters were received from a number of horticulturists in the county who were unable to attend the dinner, and expressing kindest wishes for Mr. Wright's welfare. Mr. C. Lee Campbell, of Glewstone Court, in the course of a most complimentary letter, said that he and Mr. Wright had been associated for ten years, and during that period no unpleasant word had ever passed their lips. The result of the combined work had been that Glewstone Court stood at the top of the tree in fruit producing, and during the whole of the ten years they had not had a single complaint from any buyer. He ventured to say that such a record in favour of any gardener was unique. But he wished more particularly to say what he felt as regarded Mr. Wright's relations to his brother gardeners. He was free from any professional jealousy, and if he could give a helping hand to any gardener, either by advice or material assistance, he had always been most ready to do so. Another point was that he was a perfectly fair competitor at shows, always recognising the merits of others, and never thinking unduly of his own. Mr. Campbell thought Mr. Wright not only merited the good wishes of his brethren, but had fairly earned the high post which had fallen to him. Amongst others, Mr. A. Ward, of Stoke Edith Park Gardens, and Mr. Arthur Johnson, F.R.H.S., wrote in equally eulogistic strains, the latter observing that Mr. Wright's success in obtaining so important a position reflected not only infinite credit upon his well-known abilities as a horticulturist, but also afforded a vast deal of satisfaction to all the members of his profession and those who interested themselves in horticulture who had the pleasure of his acquaintance.

After giving the usual loyal toasts, the Chairman said he had next a very pleasant duty to perform. It was to propose the health of their guest, whom they had invited there to-day to congratulate him upon the very important appointment which he had received as Superintendent of the Royal Horticultural Society's Gardens at Chiswick. There was no doubt that Mr. Wright was well worthy of the appointment, and would worthily fulfil the duties of that position. He had undergone a very strict examination, and unless he had been proficient and capable, he would not have been appointed.

Mr. Wright, in acknowledging the presentation, thanked the chairman and all of them for the good wishes they had so generously expressed on his entering upon his new sphere. He had to succeed a most able man, and he hoped to follow worthily in his footsteps, and to do credit to the Royal Horticultural Society and himself.—(Abridged from the *Hereford Times*.)

[In addition to the presentation above mentioned, Mr. Wright has received a handsome 14-day clock from the employes at Glewstone Court, a beautiful tea service from Mrs. Campbell and daughters, and an excellent reading lamp from ex-foremen—men who have from time to time served under him in the gardens, which he has so successfully managed during the past ten years.]

FLORAL DECORATIONS.

A PLEASING feature of floral decorations at the present time is their simple character. Fairy lamps, so common only a few years ago, are now put aside; coloured plushes, done up in tissue paper, rest in eupboards; and the abominable zinc designs, common twenty years ago, are now almost forgotten. We are getting sensibly nearer the realisation of the precept, *Ars est celare artem*. We are becoming sufficiently clever to hide our cleverness, and we are allowing our flowers to stand on their own merits. Another matter calling for thankfulness is the sincere appreciation discernible towards common flowers, and indeed for any form of vegetation intrinsically beautiful. I have known the advent of certain guests cause the dismissal from the table of any but the rarer flowers. That is now a thing of the past. The lowliest type, so long as it is worthy, is as welcome as the more *recherché*. Last year, at this season, the table decoration most admired was composed solely of the common China Rose, flowers, buds, and foliage, with a liberal employment of the greenish yellow blooms of *Helleborus foetidus*. The material was displayed on the cloth, and it was relieved by tall yellow-leaved *Crotons* in silver vases.

The Hellebore is so common a flower that, paradoxical as the remark may appear, it is comparatively unknown. Few would think of introducing it to their borders. Its very name is condemnatory. Nevertheless, in the limited list of plants flowering in the winter it is well worthy a place, while as a cut flower its decorative position is a high one. China Roses are on the other hand to be found in most gardens. There is, however, ground for doubting whether their surpassing beauty is fully recognised, or if their charming effect as cut flowers is known. We are so accustomed to the H.P.'s and Teas that the ancient China, which Dean Hole has designated the "Ancestral Cow," is very apt to be overlooked. Chrysanthemums are every year becoming more beautiful, and consequently in themselves form a bank from which to draw on without reserve. I quite agree that a vast amount of chaff is distributed along with the Wheat, but subsequent to the annual siftings the remains if small are fine indeed. Large blooms set singly in small receptacles form a really handsome decoration, and they are invariably appreciated. It is possible with a fair number of plants to supply quite distinct effects for many parties. For example, the blooms may be all distinct in colour and form, or they may be all white, either one variety or of distinct forms, or blooms all of one colour may be employed, as, for example, Miss D. Shea or W. K. Woodcock, or two or three varieties may be used in equal numbers of each with good effect. The flowers require no added foliage as a setting, but the general effect may be considerably lightened by laying light sprays of *Smilax* on the cloth. When white or yellow flowers are used alone, a very pretty effect is produced by the addition of a few Dog Hops or of fruiting sprays of the Spindle tree laid with the greenery on the cloth. For Christmas Day well-fruited sprays of Hodgson's Holly is preferable.

A most helpful plant at this season is found in the old *Cypripedium insigne*. The flowers every year do us good work for table decorating. They are generally employed alone, laid on the cloth; sometimes shoots of a small-foliaged *Croton*, such as *interruptum aureum*, are sparingly employed along with Maidenhair Fern. Another Orchid for table work is the easily grown *Cymbidium Lowi*. We have this for January, and it may best be used in the same way as the *Cypripedium*. The latter genus, by the way, is singularly useful in providing us with cut flowers. One of our prettiest summer tables was a large one decorated with bunches of long-stemmed *C. barbatum* set up in silver vases, and with other vases filled with W. A. Richardson Rose. Another arrangement that gave much satisfaction was composed of an equal number of vases filled respectively with Spanish Iris La Dame Blanche and Diana, the latter yellow, and the former white. Summer flowering Tulips of all kinds are also much appreciated. Tulips are somewhat difficult to arrange, inasmuch as while too tall stems are out of place, on the other hand stems too short are deplorable. One must, therefore, study to secure that happy medium which shows off the beauty of the flower most effectively. Crowding Tulips is also to be deprecated. To Narcissus the same remark applies, and it is so generally the case that these are overcrowded.

A flower that does us great service during the summer and autumn is the Sweet Pea. There is now such a variety of shades in the flower that with these, Roses, Carnations, and Mignonette, it is possible to have the most beautiful and sweetest flowers for months. The Sweet Peas that are most suitable for bunching, or I should rather say those that please me best, are Countess of Radnor, Emily Eckford, Captain of the Blues, Alice Eckford, Eliza Eckford, Her Majesty, Venus, Stanley, Royal Robe, Meteor

Princess Beatrice, Cardinal, and Blanche Burpee. I had this year the pleasure of growing a number of Mr. Eckford's seedlings, and among these Chancellor, Lady G. B. Hamilton, Caledonia, Crown Jewel, Queen Victoria, Refulgent, Lovely, Lady Binning, Duchess of Sutherland, and Prima Donna, are individually fine. Sweet Peas, it may be added, should be cut previous to the full expansion of the flowers, and they are prettiest in loose bunches, each sort by itself. Carnations are also best bunched or set up in small vases. I occasionally employ single Begonias for decorating the dining-table. The flowers in this case are laid on the cloth, Clomatis being employed in the same way.

Trees and shrubs provide a by no means despicable quota of flowers eminently suited for table decorations. Nothing, for instance, is, or can be, more beautiful than Apple blossom. From fruiting trees it is sparingly cut, but Crabs are freely cut and used. The red-berried Elder is chiefly commended for its bright clusters of fruit, but its flowers also are charming and greenish yellow in colour. Hardy Azaleas are well known for their wide range of hues. Spiræas are, of course, less showy, but some of them are decidedly pretty, such as Thunbergi, ariaefolia, and callosa, of which latter we grow many varieties. Weigelas are also good. We grow between twenty and thirty sorts; Eva Ratheke, Dr. Baillon, and candidissima are very select. Sometimes, perhaps on account of sentiment, such common shrubs as Laburnum and Lilac are requisitioned for flowers. Of the latter there is now a long list of both single and double-flowered varieties. Mahonia aquifolia yields leaves with beautiful markings. Azaleas, Oaks, Spiræa Thunbergi, Prunus Pissardi, Tea Roses, Maples, Acer palmatum atro-sanguineum, Carrots, Vitis coignetiae, and Virginian Creeper are a few hardy plants that furnish at one stage or other foliage of great beauty.—B.

THE ROYAL HORTICULTURAL SOCIETY.

PROVINCIAL OPINION.

It would hardly be consistent with my duty towards the Council of the Royal Horticultural Society for me to enter into any discussion in your columns as to the merits of any of the suggestions lately made for improving the status of the Society in the provinces.

Knowing, however, so well what is the real mind of the Council, and sharing myself to the fullest possible extent in its earnest desire and endeavour to do anything and everything that may tend to promote the true interests of the Society and of horticulture, I ask you to allow me to state that all suggestions made in the courteous spirit of your leader of December 12th, and of those gentlemen whose letters you print on pages 592-4, will, I am certain, be most carefully considered by the Council with a view to the adoption of such of them as may be found practically feasible.

May I further remark that *definite* suggestions of definite action will always, I am sure, be received by the Council with the attention which they deserve, whilst vague generalities seldom lead to any useful result.—W. WILKS.

THE practical question we have to face is, How can the Royal Horticultural Society be improved; how can it be made more useful and more national? It is a question which concerns not the Council of the Society only, but every Fellow as well, and in fact everyone who is interested in horticulture.

We may take it for granted, I think, that the members of the Council are not satisfied with past results, and have dreams of greater usefulness for the Society. They ought therefore to welcome such a discussion as you have opened up in your columns.

The most practical and easily carried out suggestion is the one which has been made regarding deputations from the Royal Horticultural Society visiting some of the leading provincial shows, and the letters of Mr. Green of Wolverhampton and Mr. Adnitt of Shrewsbury are valuable in this connection.

Supposing five gentlemen, two members of the Fruit Committee, two members of the Floral Committee, and one member of the Council, were delegated to attend Wolverhampton, Shrewsbury, York, and Edinburgh, I am sure they would be heartily welcomed, and the expense would not be dreadful. Still, it would run to at least £20 for each show, but possibly half of the amount might be obtained from the local society. I am well aware that the question of ways and means is a serious one with the Royal Horticultural Society, and that is one reason why I would urge forward such a scheme as foreshadowed. It could be financed without difficulty, while anything more ambitious would require grave consideration; and, further, it would show that the Society meant to do something.

I am heartily in sympathy with the feeling which prevails

against the methods of electing not only the Committees of the R.H.S. but also the Council, but these are not likely to be remedied until the Fellows wake up and offer some systematic opposition.

I would venture to suggest that a meeting of all those interested in the expansion of the Royal Horticultural Society be held in London on the second day of the Temple show. Many provincial horticulturists are then in London, and they could meet with their brethren of the metropolis who sympathised with the movement, and possibly resolve on some united action.

Meantime, by all means let the subject be thrashed out in your columns.—WM. CUTHBERTSON, OF DOBBIE & CO., *Rothsay*.

YOUR recent leader respecting methods for widening the area of operations of this popular Society comes at a most useful time. Not only just now can more attention be given to the subject, but we are within a few weeks' time of the holding of the annual general meeting, and thus ample time is afforded for the Council, in conjunction with a representative committee of the provincial societies, to formulate a scheme of inclusion and yet of far wider operation than now exists. Another specially favourable cause is the practical conclusion of the labours of the R.H.S. Code of Judging Committee, thus enabling the new code to be published early and issued all over the kingdom.

Such a publication will not only draw strong attention to the nature of the R.H.S., but will also emphasise in the country that eminent position the Society now occupies in the estimation of so many thousands of horticulturists. It would, however, be a grave mistake were the Council of the Royal Horticultural Society to assume that such an effort, and it is a great effort, is enough for the present. So far from that being the case the metal has been long heating, and it is for the Council to strike whilst it is hot. A scheme of inclusion on the basis suggested in your leader must be a broad and a very generous one. There is little probability that too much will be asked by the provincial societies. Rather it is a case for bold and generous offers, so as to secure at once co-operation and federation.

A good deal has been said from time to time as to the duty of the R.H.S. in relation to what are termed special societies. These, however, having been established for the promotion of special and restricted objects, seem to be of far less importance in relation to horticulture, although they do valuable work in their respective spheres, than are the vast number of provincial or local horticultural societies that so widely exist, indeed, cover the entire kingdom. To some extent it may be possible to bring every one of these various bodies, small or large, into federation with the R.H.S. by grouping them in counties or other wide areas and first affiliating them to the chief or leading county or other organisation, this latter body being the actual representative of the R.H.S., and whilst also affiliated is also the medium of the operations of the national society in its respective area. There is hardly a county in which some prominent and strong leading society may not be found.

In forming county committees to co-operate with or become branch sections of the R.H.S. Committees, each local affiliated society in a district or county should have the right to nominate one member at least, but who must be a Fellow of the R.H.S., as all present members of the Committee have to be. There are few counties in which it may not be easy to find at least twelve capable horticulturists willing to serve on each branch Fruit and Floral Committee. As to keeping their labours in exact harmony with those of the Central Committee, perhaps the gravest difficulty is presented; but in face of the enormous gain to horticulture which may result from the proposed federation, small difficulties, or even large ones, must be faced only to be overcome. Reports of the proceedings of these committees should be furnished to the London gardening papers, and to the Council of the R.H.S. for embodiment into their journal. Of course such reports would have to be very concise. Still that could no doubt be done. The present need seems to be a conference between the R.H.S. and representatives of the leading provincial societies.—D., *Kingston*.

I was very pleased to see the leading article in the *Journal of Horticulture*, December 12th, 1895; there is what I call a grand suggestion in the latter part of the article. It is what I have been thinking about for some time. For instance, say, a nurseryman, gardener, or amateur has a new seedling or a new sport or anything special it must be brought before the Royal Horticultural Society in London before it can have a certificate from that Society. It is not every gardener who can afford to take new products to London, and then others reap the benefit of his labours, not himself. If the Royal Horticultural Society held meetings in our large cities such as Birmingham, Manchester, Edinburgh, and others, what a grand thing it would be, and now the ball is set rolling I hope it will come to something more than talk.—WM. PEARCE.



WEATHER IN LONDON.—The new year has been ushered in under pleasant conditions, and the prospects of frost entertained a few days ago have vanished under the extremely mild weather that has since prevailed. The atmosphere is clear and pleasant, and with the sun shining brightly the last few days have had quite a spring-like appearance.

WEATHER IN THE NORTH.—For some days bitterly cold, dull weather, with N.E. wind, prevailed till midday on Saturday, when a heavy snowfall commenced, which lasted till evening, when about 3 inches of snow lay on the ground. A cold thaw then set in, and by Sunday evening the snow had in great measure disappeared. Monday was throughout rainy and cold.—B. D., *S. Perthshire*.

SHIRLEY, MILLBROOK, AND FREEMANTLE HORTICULTURAL SOCIETY.—The thirtieth annual general meeting of the above Society was held recently at the Shirley Hotel, Southampton, the chair being taken by the President, Andrew Barlow, Esq. The report showed the Society to be making steady progress, the entries numbering 600, and the membership also increasing. The balance-sheet proved a balance in favour of the Society of over £35. After the adoption of the report and balance-sheet the President was again unanimously re-elected, as were also the Vice-Presidents, Treasurer, and Secretary. A vote of thanks to the President and the retiring members of the Committee, and a ballot for a Committee of twelve, closed a very successful meeting and year.

APPLES AS MEDICINE.—According to Dr. G. R. Searles the Apple is medicinal in a marked degree. He says:—"The Apple is such common fruit that very few persons are familiar with its remarkable efficacious medicinal properties. Everybody ought to know that the very best thing they can do is to eat Apples just before retiring for the night. Persons uninitiated in the mysteries of the fruit are liable to throw up their hands in horror at the visions of dyspepsia, which such a suggestion may summon up, but no harm can come even to a delicate system by the eating of ripe and juicy Apples just before going to bed. The Apple is an excellent brain food, because it has more phosphoric acid in easily digestible shape than any other vegetable known. It excites the action of the liver, promotes sound and healthy sleep, and thoroughly disinfects the mouth. This is not all. The Apple agglutinates the surplus acids of the stomach, helps the kidney secretions, and prevents calculus growths, while it obviates indigestion, and is one of the best preventives known of diseases of the throat. Everybody should be familiar with such knowledge. In addition, next to the Orange and the Lemon, it is the best antidote for the thirst and craving of the person addicted to the alcohol or the opium habit."

CHISLEHURST GARDENERS' ASSOCIATION.—There was a good attendance of members at a recent meeting of this Society, when Mr. H. Cannell gave a lecture on "Heating, as Applied to Horticultural Buildings." At the commencement of his address Mr. Cannell said he did not profess to be a lecturer, but came before them as a gardener, and one who knew some of the difficulties that gardeners had to contend with. He hoped that no one present would hesitate to put questions to him on any point that did not seem clear to his hearers. Mr. Cannell then traced the history of heating glass structures, commencing with the old plan of hotbeds of manure and leaves, placed inside and round the sides of structures to produce heat. Then followed the flues, but these were always a great anxiety, owing to their liability to crack, letting the sulphur fumes escape into the house, and killing everything in it; but even under these adverse circumstances good plants were grown. This was in turn superseded by hot water. In its earlier stages the water was conveyed round the house in open troughs. Finally it reached the point we now see it—viz., carried round in pipes. Mr. Cannell said the aim should be to get a boiler that would extract the greatest amount of heat from the fuel before it passed up the chimney. The manner of setting the boiler was also dealt with, as also the pipes and their arrangement in the house, having them spread over as large an area as possible. The advantage of having a pipe under the roof was also pointed out; in fact, every detail was given with minuteness. At the close of the lecture a vote of thanks was accorded.

— **MR. J. HATHAWAY**, who has been for the past sixteen years head gardener to the Right Hon. the Earl of Latham, Latton House, near Ormskirk, and who will be remembered by visitors to Liverpool, Shrewsbury, and other notable shows as a successful exhibitor of vegetables, has been appointed by the Corporation of Southport head gardener to take charge of their park, gardens, and recreation grounds, at a salary of £150, house, &c., free. There were 249 applicants for the post.

— **GARDENING APPOINTMENTS.**—Mr. J. W. Barks, for the past eight and a half years foreman at Downside, Leatherhead, has been appointed head gardener to Pandelli Ralli, Esq., Alderbrook, Cranleigh, Guildford, Surrey. Mr. E. Rose, who has been foreman of the glass department, Belvoir Castle Gardens, upwards of five years, as head gardener to J. T. Dagdale, Esq., Sezincote, Moreton-in-Marsh Gloucestershire.

— **THE annual dinner of the FRENCH HORTICULTURAL SOCIETY** of London will be held at the Society's usual meeting place, New Compton Street, Soho, on Saturday, the 11th January, when Mr. Harman Payne will occupy the chair.

— **AGED PEOPLES' SOCIAL GATHERING.**—The annual tea and entertainment under the management of the Astwood Bank Amateur Gardeners' Society, was held on Friday evening, the 27th ult., and was well attended, nearly one hundred aged thoroughly enjoying themselves. Vocal and instrumental music was cheerfully given by kind friends from the village and locality, which was highly appreciated. A distribution of provisions to those unable to attend took place on the following day, and it is intended to hold a ball for the young friends who waited on and attended their aged neighbours.—J. H.

— **MAHONIA SPRAYS.**—Very largely sold all through the autumn and winter are small portions of branches of Mahonia aquifolia, but in an artificially coloured state, usually, indeed, of a coppery hue. This colouration, produced by dye, is due no doubt to the natural tendency on the part of the leafage of this useful hardy shrub to assume a bronzy or coppery hue in the winter. The artificial colouration rather exceeds that of Nature, but when associated with white flowers it is not displeasing. It is surprising to find how quickly the leafage shrivels, however, if these sprays be set into water, but if in waterless vases will keep fairly fresh for some time. Doubtless the closing of the pores or stomata by the dye prevents capillary action when water is taken up by the stems. Where Mahonia is largely grown and on somewhat poor or gravelly soil, colouration in the autumn is more pronounced, and such leafage is far better for indoor decoration than is that artificially dyed.—D.

— **LARGE ONIONS.**—Any readers who have not grown large Onions on the early sowing and planting out method, and would wish to try the plan, should at once prepare shallow boxes or broad pans for the purpose, and secure seed. Some growers sow before Christmas, but there is yet ample time to do so. The best place to stand the boxes or pans after seed is sown is in an early vinery, where the Vines are being moved to break by very gentle warmth. No sooner are the plants well up than, if the heat be getting too great, they can be shifted into a rather cooler, yet very light house. When the seedlings are 3 inches in height they should be transplanted thinly into other shallow boxes or pans, or be dibbled out into a frame where there is gentle bottom heat, the soil being within 6 inches of the glass. All that is needed henceforth is ample light and air, so that the plants keep erect, stout and vigorous. They may be planted out very thinly into rich deep soil during April.—GROWER.

— **WAKEFIELD PAXTON SOCIETY.**—"Winter Vegetables" was the subject of an interesting and instructive discourse by Mr. T. Pitts at the weekly meeting of the Paxton Society on the 21st ult. Mr. Tunnicliffe was Chairman, and Mr. G. Brown Vice-Chairman, and over forty members were present. Mr. Pitts, at the outset, said he should speak as "an amateur to amateurs," humorously referring to his recent change of occupation—from being head gardener to Mr. D. B. Kendell, J.P., of Walton, to becoming checkweighman at the Park Hill Colliery. It was not impossible, said Mr. Pitts, to have a different vegetable (not including Potatoes) every day of the week throughout the winter, grown in any garden and without the aid of artificial heat or fire. The vegetables dwelt on by Mr. Pitts were Artichokes, Brussels Sprouts, Broccoli, Savoys, Parsnips, Seakale, Purple Sprouting Broccoli, Cottager's Kale, and Salsafy; and clear and concise hints on the best methods of cultivating each, from the seed-bed to perfection, were given. None of these vegetables was, according to the essayist, expensive or difficult to grow, but the best results could be obtained only by care and hard work.

— SUPPER AND PRESENTATION TO MR. M'KELVIE.—Mr. Wm. M'Kelvie, lately head gardener at Broxmouth, was recently entertained to supper, and made the recipient of a handsome presentation marble clock, on the occasion of his taking up the tenancy of Duncanlaw Farm. There was a large gathering, and an exceedingly pleasant time was spent.

— TANGERINE ORANGES.—The Tangerine Orange, and possibly some other varieties, are formed through the effort of the Orange to make a secondary fruit at the apex of the original one, only that it failed to make any original at all. In other words, the Tangerine Orange is a well-developed secondary fruit. How this can be brought about, says "Meehans' Monthly," may be readily understood by carefully examining the Oranges known in the markets as the Navel variety. In these cases a small Orange can often be found at the apex, sometimes of considerable size. When this small one is largely developed, and the larger one wholly suppressed, then we have the Tangerine.

— GARDENING.—An American contemporary says:—"Not long ago Professor Bailey told one of his classes that he was impressed more and more with the fact that persons who know nothing about horticulture to begin with often become most successful when they once enter the business. This simply means that these men start without any prejudice and with everything to learn, full of enthusiasm, and with minds open to accept any new teaching which commends itself to them. Not long ago he visited one of the largest and most successful establishments for growing Mushrooms and forcing vegetables in the country, where the manager but a few years ago knew nothing whatever of the business. Perhaps many of the best farmers of the future may be those who have not been brought up on farms of the present time."

— COOPER'S BLACK GRAPE.—I should have told you when I wrote before that Mr. George Cooper died in the spring of this year from influenza, after a few days' illness, aged seventy-three. He was one of your oldest subscribers. For the last eighteen years he was a most successful market gardener, convenient to the military camp at the Curragh. He often spoke of the Vine borders at Trentham, which he assisted to make under the orders of the late Mr. Fleming, a great Grape grower. I am sorry I cannot send you a bunch of "Cooper's Black" this year, but I hope to have that pleasure next year. I may repeat, the original Vine was at the "Palace" when Mr. Cooper went there. The berries with me are more round than oval.—WILLIAM THOMPSON, *Harristown Gardens*. [Some of the berries of Cooper's Black sent to us were more "round than oval," but then others stated to have been produced by Vines raised from the Armagh parent were more oval than round. With the names removed from the several bunches it was impossible to separate the "Cooper's" from the "Maroc's."]

— DECEMBER WEATHER.—The decided rise of temperature which set in over England on Saturday last continued, though to a more gradual extent, throughout the whole of Sunday and Monday. On Saturday the thermometer over our central and southern districts rose to between 45° and 48°. On Sunday it slightly exceeded 50°, and in the course of the ensuing night it fell very little below 45°, the minimum in London being as high as 46°. On Monday the day readings were even higher than on Sunday, the thermometer rising well above 50° in most places, and touching 56° in London. The maximum temperature in the metropolis was, however, not unusual even for the time of year. One striking feature in the weather of an English winter is that while the thermometer may sink to zero, or may, on the other hand, fall very little below the freezing point, it is almost certain to rise at some time or another to 50°, and is more likely than not to reach 55°. Taking the month of December alone, we find that in London the thermometer has reached 55° or more in eighteen out of the past twenty-five years, and that in three years it has reached 58°. In only two years did it fail to reach 50°, and, omitting these, the range of the absolute maximum temperature for the twenty-five Decembers was, therefore, only 8°. With the minimum temperature, however, things have been very different, for while there have been ten Decembers in which the thermometer has sunk below 20°, and that in which it has fallen below 15°, there have been eight in which it has not gone below 25°, and one in which it never went below 30°. The warmth of Monday was accompanied by great humidity, and although no rain fell in London after midday the roads and pavements remained very wet. The maximum temperature in the metropolis was at least 17° higher than anything registered during the earlier portion of last week, and was 22° higher than on Christmas Day.—("Daily News.")

— EXPERIMENTS WITH COLOURED GLASS.—In cultivating Strawberries under glass of various colours Prof. Zacharewicz of Vacluse, France, has obtained the following results:—Ordinary clear glass gave the best and earliest fruit; orange glass increased the vegetation, but injured the quality, size, and earliness of the fruit; violet glass increased the yield at the expense of the quality; red, blue, and green glass were hurtful to all kinds of vegetation.

— SHIRLEY GARDENERS' AND AMATEURS' MUTUAL IMPROVEMENT ASSOCIATION.—The last monthly meeting was held at the Parish Room, Shirley, Southampton, the President, W. F. G. Spranger, Esq., C.C., being in the chair, and about forty members attending. Two prizes had been offered for essays on "The Best and Most Economical Method of Heating Pit, Stove, and Greenhouses with One Apparatus," open to members under twenty-five, and not to exceed 1000 words. There were only two entries, both advocating hot-water heating, but differing as to choice of boilers. The first prize was awarded to Mr. P. L. Morris, The Gardens, Blighmont, Millbrook. The papers were read by the essayists, and considerable discussion ensued. A vote of thanks was afterwards accorded the authors of the essays.

— CENTROPOGON LUCYANUS.—Showy in colour and graceful in habit, this stove-perennial of the Campanula family is one of our best winter-flowering plants. The flowers are curved, tubular, about 2 inches long, with recurved segments; colour bright rosy-carmine. They are produced several together on short side shoots, and when the plant is in full bloom it is very attractive. This is a plant for the warm greenhouse; it should be grown in a half-shady position in well drained pots, in a mixture of rich loam, leaf mould and sand, with an addition of some well-decayed horse manure. During the growing season too much water cannot be given. Old plants may also be planted out in the open air in a moist and half-shady position, where it will grow rapidly and form numerous side shoots. As the flowering during winter depends on these, the plants should, of course, not be pruned until after they flower, when they can be dried off slightly and cut down to the ground before being planted out. Plants treated in this way should be lifted early and potted in moderately sized pots. They may also be planted out in a border in the conservatory, where they can be left for years. For ordinary use small plants raised by means of herbaceous cuttings in the spring and grown on as rapidly as possible are the best. These will reach a considerable size during the first season, and if grown in pots should be gradually ripened as winter draws near. As this is one of the best plants of its class, and suitable for all kinds of winter decoration, it is surprising, says an American contemporary, that no enterprising florist has taken it in hand long before this.

— ANNUAL RE-UNION OF MESSRS. DOBBIE & CO.'S EMPLOYEES.—This interesting annual event took place recently in the Lesser New Public Halls, Rothesay, and was, as in previous years, a very great success. The company numbered about 120, and was presided over by Mr. Wm. Cuthbertson, the head of the firm, supported by ex-Bailie Burness, Mr. A. M. Burnie, Mrs. Cuthbertson, Miss Burnie, Mr. and Mrs. A. S. Christie, Messrs. Dunn, Jones, M'Murichie, and others. The Chairman, in the course of his address, said that from a business point of view 1895 had been the most successful year yet experienced in the history of the firm. The volume of trade had been much larger, as they all knew, and the firm had consequently been enabled to give employment to an increased number of men. People might imagine that they had a mania for taking land, as no sooner was their Orpington seed farm under way than a new farm was secured in Bute; but it had been his desire for years to go in for select agricultural seeds, and when the opportunity presented itself, along with such a man as Mr. Mitchell to work it out, there was not a moment's hesitation on his own part or that of his partners. Most of those present already knew Mr. Mitchell by reputation, and if they, and he included himself in this, did their duty as Mr. Mitchell would do his there was greater prosperity than ever in store for them. He counselled the young men to strive to attain a reputation for being depended on. Anyone could see the force of what he meant. It was a great relief to an employer to feel absolutely certain that things remitted to an assistant would be faithfully carried out. Mr. Burness congratulated the firm on its increasing prosperity, which he hoped would long continue. Mr. Burnie, in the course of his remarks, said that Mr. Cuthbertson, in speaking of the satisfactory increase of business, might have mentioned at the same time the still more pleasing fact, from the employees' point of view, that wages had been increased on the average almost £4 per head. A very attractive programme of vocal and instrumental music was gone through, the various items being received with many expressions of pleasure.



CHRYSANTHEMUM MONS. CHENON DE LECHÉ.

CONSPICUOUS in many respects as have been the novelties in Chrysanthemums during the past season, perhaps none has received more general admiration than Mons. Chenon de Leché, of which the illustration (fig. 2), reproduced from a photograph, is a faithful portrayal. It combines size, substance, and grace with distinctiveness of colouration, and may naturally, therefore, be expected to take a high rank in forthcoming seasons. From the Royal Horticultural Society it has received an award of merit, while the National Chrysanthemum Society has honoured it with a first-class certificate, the specimens in each case being staged by Mr. W. Wells, the Earlswood Nurseries, Redhill. The florets are very long, regularly arranged, and of medium width. The colour is a yellow ground, shaded salmon-bronze in the centre, passing to a rosy bronze on the outer florets. It is a reflexed Japanese of the true type.

NATIONAL CHRYSANTHEMUM SOCIETY.

THE fixtures for 1896 are as follows:—September 1st, 2nd, 3rd, not 9th, 10th, 11th; October 6th, 7th, 8th; November 3rd, 4th, 5th, 6th; and December 1st, 2nd, 3rd.

DISQUALIFICATION AT GLASGOW.

THE statement by Mr. Elton (page 601) is misleading and incorrect. We have carefully measured the third board referred to, and find it is 26 inches by 20, the others being 27 by 20½. This difference when set up and covered with blooms could not be detected by eyesight alone, and was only made apparent by actual measurement, which makes a misstatement of 2 inches in both directions the more inexcusable. This paragraph is an attempt to cover the fact that Mr. E—— and his friends made use of a technical infraction of the rules, thus throwing our blooms out of the competition, and enabling others to creep into a place. —J. R. PEARSON and SONS.

YELLOW BOUQUET DES DAMES

MR. H. J. JONES, Ryecroft Nursery, Lewisham, writes, "Re inquiry from 'Another Mummer,' on page 601, about Yellow Bouquet des Dames, this was sent out by Messrs. Clibran & Sons about two years ago under name of Wm. Firkins. It is a soft primrose yellow colour."

CHRYSANTHEMUM MDLLE. THÉRÈSE REY.

IT may not be generally known that this very fine Japanese Chrysanthemum is also a really good late flowering variety. I recently saw some plants that had been managed by topping the shoots several times in the early stages of growth, and thus producing a flowering crop. In blooms of the size that might be expected from plants thus managed the colour partakes of a whiter tint than the usual creamy suffusion that pervades the larger and earlier blooms of this charming Chrysanthemum. —E. M.

BEAUTY OF TEIGNMOUTH AND PRIDE OF MADFORD.

YOUR able correspondent Mr. E. Molyneux, in his notice of new varieties of Chrysanthemums (page 558, last volume), in describing Beauty of Teignmouth, says, "This and Pride of Madford seem to be a little confused. Growing side by side, I have failed to detect any difference in the two." If Mr. Molyneux had the two varieties true he would have no difficulty in detecting the difference between them. I had the pleasure of growing them both last year (1894), and found them entirely distinct, both in flower, foliage, and habit of growth. Beauty of Teignmouth is an incurved Japanese, rich purple with a lilac reverse; Pride of Madford is a reflexed Japanese, crimson cerise with silvery reverse. They have both received awards of merit this autumn by the R.H.S. They would not give awards to one variety under two names. By Mr. Molyneux's description many persons may be led to believe that if they get Pride of Madford they will have Beauty of Teignmouth, or vice versa. They will be very much disappointed if they do.—G. FOSTER, Glendaragh Gardens, Teignmouth.

CHRYSANTHEMUM MADAME CARNOT.

I CAN assure "A Sceptic" (page 581) that there was no mistake made in the measurement of the premier bloom of this variety at Bawtry show. In my previous note I was particular to keep well within the mark, the exact measurement being 13½ inches in diameter. "Sceptic" assumes that because one grower has not exhibited a bloom of this variety anything approaching it in size that it is not possible for another grower to excel what has already been done. That this is a fallacy is the opinion of—YORKSHIREMAN.

I DO not doubt for a moment that blooms of this grand white variety have been produced 13 inches over. I have only grown one plant from a very small cutting obtained at the end of January, 1895. It grew

weakly at first, but from the time it was placed into its flowering pot (9-inch) it gained strength and branched at the end of June. The buds were taken in September, but I did not note the date. The plant was allowed to carry two flowers. The earliest bloom was 12 inches over (for curiosity I placed a rule under it); the other was about 10 inches, although slightly deformed. We have had Vivian Morel 12½ inches over and deep in proportion, and at one time we thought the plants would do no good. From the time they were rooted they persisted in throwing flower buds, and continued to do so after they were in their flowering pots. On the whole, however, in spite of this we never had better blooms. Last year we had scarcely a good bloom of Sunflower, and this year every bloom from a dozen or more plants, three on a plant, was exceedingly good, and would not have disgraced any stand of fine flowers. —WM. BARDNEY.

HOME AND FOREIGN-RAISED CHRYSANTHEMUMS.

AS there seems to be growing up a feeling of rivalry as to the various productions of Japanese Chrysanthemums, now becoming so wonderfully abundant, and coming from France, America, and from home, I would suggest that a most interesting class at an exhibition, and especially at the proposed N.C.S. Jubilee show, would be one composed of these three sections in equal quantities; as for instance, twelve French, twelve American, and twelve of home raising in one stand, each dozen being blocked together. Assuming that only the very best in each case were shown, how admirably would such a class, if fairly well contested, serve to show the respective merits of each country's production. A well known trade grower said not long since that he thought twelve of M. Calvat's would equal any other twelve to be found. That may have been a bold statement. I do not suggest that raisers should be considered in the proposed class as only national productions. At present we show Chrysanthemum blooms so intermixed that it is not possible to create comparisons. But such a class as that named would not only prove to be one of exceeding interest, but it would create stimulus on the part of raisers of those countries found to be in the rear that could not be otherwise than helpful to Chrysanthemum production.—A.

INCURVED CHRYSANTHEMUMS.

IF the definition given by "D" (page 581) that a true incurved Chrysanthemum should have "broader and more rounded petals" than those possessed by Major Bonnaillon is to be insisted on, we shall lose many of our best varieties, as they do not come up to this standard of excellence. For instance, C. H. Curtis, all the Princess of Wales' family, some eight in number, Madame Darrier, Lord Roschery, Novelty, Alfred Lync, Mr. James Murray, Mrs. J. Gardiner, Ami Hoste, Princess Beatrice, George Cockburn, Madame F. Mistral, not forgetting Eve and Mabel Ward. We should then have to rely on the various members of the Queen and Princess Teck families, Empress Eugénie, Jeanne d'Arc, R. Petfield, Globe d'Or, and such-like varieties. I would ask, is it worth while to entertain such an idea? With the advent of Madame Darrier, some writers said such narrow-petalled varieties gave additional interest to the section of incurved Chrysanthemums! and now to please the peculiarities of other writers these must be eliminated from favour. "D" may not know—I suspect he is not acquainted with the cultural requirements—that in some localities even the Queen family does not give broad and fully-rounded petals. Such inferiority then would be excluded from the standard set up by this theorist. He would be a bold man, indeed, who would put to the vote the exclusion of such a charming variety as C. H. Curtis, for example, simply because its petals are too pointed to please pedantic critics.—SADOC.

CHRYSANTHEMUM SPORTS.

THE production of new colours of the best types—thus, as it were, evolving new varieties, raises this question into a most important one. Darwin's researches into the subject of variation of plants and animals under domestication shows it to be far-reaching, involving many and various issues. Perhaps the most important bearing on the matter is whether or not plants possess the inherent or latent principle of variation, independent of the disturbing influences set up by fertilisation. So far as "G. R.'s" (page 581) experiences go with Pelargoniums, it is interesting to know that to some extent they coincide with Darwin's conclusions on the plants he names, and also on Chrysanthemums; yet the evidence in favour of cross-fertilisation as the direct cause of "sports" is not strong enough to place the matter beyond doubt.

No one acquainted with Darwin's methods and his unbiassed judgment can doubt his conclusions. After an exhaustive summary of an immense array of facts bearing in diverse ways on the question, he writes:—"Hence we may suspect that the strong tendency in the Chrysanthemum to produce by bud variations differently coloured flowers results from the varieties formerly having being intentionally or accidentally crossed, and that their descendants at the present day still occasionally revert by buds to the colours of the more persistent parent varieties." This being one example of a series in support of that view of the case, against that view let us take the following excerpt:—"But if we turn to the other end of the series—namely, to such cases as that of a Peach tree, which after having been cultivated by tens of thousands during many years in many countries, and after having annually produced thousands of buds, all of which have apparently been exposed to precisely the same conditions, yet at last suddenly produces a single bud with its whole character greatly transformed (as in the production of the Nectarine) we are driven to the opposite

conclusion. In such cases as the latter it would appear that the transformation stands in no direct relation to the conditions of life. Further, we see that bud variability is not solely dependent on reversion or atavism to long-lost characters (heredity) or to those formerly acquired from a cross, but that it is often spontaneous. But when we ask ourselves what is the cause of any particular bud variation we are lost in doubt, being driven in some cases to look to the direct action of the external conditions of life as sufficient, and in other cases to feel a

of plants in support of his general views rather than the solving the cause of the mystery of bud variation itself.

We may therefore start where he left off. To this end every scrap of reliable information bearing on the question will be most valuable, not forgetting the details of "G. R.'s" experience in the matter. A record of every sport, along with information on its environment and general treatment leading up to the bud variation by those interested would no doubt eventually reduce the matter to practical ends.—AZOTO.



FIG. 2.—CHRYSANthemum MONS. CHENON DE LECHÊ.

profound conviction that these have played a quite subordinate part of not more importance than the nature of the spark which ignites a mass of combustible matter."

We thus realise that without Darwin's profound knowledge on this subject how easy it would be by generalising to run off the line of the argument as to the cause of sports in Chrysanthemums, yet because Darwin himself did not locate the cause that is no reason for us to despair of the mystery being cleared up. In this matter, as in every other, there is no effect without a cause, and we must bear in mind that Darwin's primary object was to establish his hypothesis of the variation

REFLECTIONS.

THE shows are over; exhibitors, judges, and reporters alike have for the moment a breathing space; the busiest of us feels inclined at this Christmas season to lay aside work, and the closing hours of the old year generally call up to our minds thoughts and memories of the past. It is not my intention to speak of the immediate past, knowing that this is a subject which will be treated of by far more able hands than mine; but sitting by my fireside this evening I spent a few minutes looking through a catalogue of nursery stock, printed for my great-grandfather

in the year of grace 1787 (which was kindly sent to me by a neighbour), and it occurred to me that it might prove of some interest to those who wonder how our forebears lived, to cull a few items from its pages.

Book number one is headed "Flower Roots," and the first thing I find is Hyacinths. It is curious to note that all the varieties catalogued are double. Whether such things as single Hyacinths were sold in those days I know not; but, at any rate, they did not find much favour with the public, for I give the compiler of the catalogue credit for having sense enough to know what would sell. How changed is the public taste to-day, when fifty single Hyacinths are sold to every double one! But if there is a change here, how much greater is the change in value. In 1787 the means of transit were not quite what they are to-day, and the cost of transport must have been considerably higher than it is now; still, when one notes that the cheapest variety catalogued was 1s., and that by far the greater number were 2s. and 3s. each, with many at 10s., and up to 24s. per bulb, one cannot but think that in those "good old days" there must have been a larger margin of profit, both to the grower and the retailer, than their successors enjoy; and those of us who know Holland well do not so much wonder, when we think of Hyacinths at these prices, how our old friends there acquired those stores of old china and silver, which have at times created astonishment, if not envy, in our minds.

Of course one may say the demand could not have been very great, and yet it must have been something considerable when we find 103 varieties of double red, eighty-three of double white, three double yellow (two out of the three in cultivation to-day), and eighty-nine double blues. The question arises in one's mind, Did any expert ever live who could distinguish them all? If so, his senses must have been of a high order. I should pity myself if I had to learn the distinguishing points of eighty different double white Hyacinths. Happily, the number of varieties in general cultivation has been greatly reduced since then, and it will still bear reduction; it is absurd on the face of things to grow fifty or sixty kinds of single white Hyacinths as we do to-day. White is white, or should be, and though it sometimes runs into pale flesh colour; still, there cannot be much distinction in the matter of tint, and surely there is not so very much difference in the matter of form.

Looking through this long list of names I find thirteen of them still retained in the list of one of our best cultivators to-day. Of course, there might have been more had not the change of fashion so greatly curtailed the list of double varieties. The aggregate prices of these thirteen varieties in 1787 was 43s.; in 1895, 6s. The highest price was 8s., and I think it is worthy of remark that not a single one of the very high-priced ones—16s., 20s., and 24s. each—which were doubtless novelties, survives to-day. It seems to point out that even in the "good old days" it was not an unknown thing for new varieties to be sent out which were not equal to those already in cultivation. Time tries all, and doubtless some of our present-day novelties will in their turn be lost in oblivion.

Book the 2nd.—We now leave the Dutch productions and come to home-grown bulbs. Tulips, for which I believe Chilwell had some small name in those days, comes first, and I find 115 varieties of byblœmens catalogued, the lowest priced being at that good old standard unit of 1s., and ranging in gradations up to 7 guineas the bulb. Bizarres follow with 185 varieties, but alas! though more golden than their byblœmen brethren in colour, they show a falling off in price, for there are many here quoted at the price of the nimble sixpence, though many are at half a guinea, and a few reach 4 and 6 guineas the bulb. Ranunculus follow with 480 varieties, nothing under a shilling and ranging up to a guinea each. It almost takes one's breath away. Surely the Ranunculus must have been on the "boom" in those days. I pass by the Anemones, Narcissi, and Jonquils, and come to plants, Auriculas, of which we are told "the price affixed is for a single, good-blooming plant." They ought to have been fairly good plants, when one sees that the price of some of them was 2 guineas each, and many were 10s. 6d. and 1 guinea. If we wish to know the properties of a fine Auricula the writer of the catalogue furnishes us with his ideas on the subject.

Passing on we come to Carnations with a list of 212 varieties, including seven of Pearson's varieties and a number of Turner's and others, all with the raiser's name attached, an ancient and honourable custom which has greatly fallen into disuse, the prices from 2s. to 21s. per pair. Pinks follow with 116 varieties, twenty-four raised at Chilwell, prices from 1s. to 10s. 6d. per pair; but although Pinks were evidently a favourite flower with my ancestor, they could scarcely claim to hold the same place in his esteem as the Polyanthus, of which he says, "It possesses a richness and symmetry not to be found in any other flower." The collection of Polyanthus was comparatively small, including only some forty-seven varieties; but though small it seems to have been select, as the price of some was from 10s. 6d. to 21s. each. When I said the collection was small I meant for 1787, for I think one of the most remarkable points about this catalogue is the prodigious list of names it contains.

Book the 3rd contains fruit trees, and here one finds some thirty-eight varieties of Peaches enumerated, amongst which are our old friends Noblesse, Royal George, Violette Hâtive, French Mignonne, Late Admirable. Nectarines, nine, including Violette Hâtive, Elruge, Newington, and Red Roman. Apricots, eight, half of them in cultivation to-day. Plums, twenty-nine, including Green Gage, Orleans, red and white "Bonum Magnum," Sharp's Emperor, Violet, and Damsons. Pears, fifty, including Bon Chrétien, Brown Beurré, Brown Pear of Worcester, Uvedales St. Germain, Grey Beurré, and Jargonelle.

Apples, eighty, many still amongst our well-known favourites. Twenty-three Cherries, and a few sundries close the list; but I must not forget to mention that "The new and most fine Yellow Antwerp Prolific Raspberry" was offered at 2s. each plant. Book 4th contains forest trees, evergreens, Roses, climbers, flowering shrubs, ornamental trees, fruit tree stocks, hardy plants, "some of the most curious from America," including Andromedas at 7s. 6d. each; Rhododendron ponticum, 6s.; R. ferrugineum, 21s.; R. hirsutum, 31s. 6d. each, and finally a long list of seeds. Truly a comprehensive catalogue; but there is still a *bon bouche* in the shape of a list of choice Gooseberries reserved to the end, and I think this last is startling. Gooseberry exhibitions must have been the fashion when we find no less than 302 choice show varieties catalogued, varying in price from 4d. to 4s. each.

Looking over this quaint, old comprehensive catalogue, which in spite of its long list of names, is all contained in fifty-six octavo pages, one is rather inclined to envy our great-grandfathers who, once having compiled this list were free from any further labours of that description for, at any rate one season, and if report speaks truly, for two seasons, as the list was often only distributed every other year. No florid descriptions to write or more fervent descriptions of others to verify, for this list is only bare names, if we except the articles on the Polyanthus and Auricula, no plates to prepare—but why go further—there was doubtless a reverse to the picture, and one hears of such small drawbacks as letters received with 8d. and 10d. each to pay on receipt from some good amateur asking advice as to how to rid his Carnations of wireworm, or what not, and again of journeys on horseback to collect one's money once a year, carrying that same in the form of notes or coin of the realm from town to town, with the certainty of reaching home with one's thighs black and blue with the bumping of the same in one's breeches pockets, and the possibility of being left cold in a ditch with a highwayman's bullet through one. Still, having scanned some of the prices of this modest catalogue, and bearing in mind that the price of ordinary nursery stock was on the average quite as high as that obtained to-day, whilst labour has doubled in price, with shorter hours, and the cost of living increased, one cannot but come to the conclusion that the nurseryman of 1787 was better paid for his exertions than his successor to-day.—A. H. PEARSON, *Chilwell, Notts.*

CHICORY.

IN the midst of winter when it is by no means an easy task to maintain a constant supply of the choicer kinds of vegetables, or to keep the salad bowl well filled, any edible which may be made to contribute largely to both of these aims ought to be welcomed, and given a trial by gardeners innumerable. Chicory is a perennial vegetable which possesses these good qualities, but for some reason or other its cultivation in this country has not extended very rapidly, but on the Continent we are told it is largely grown, and in the few instances I have met with where gardeners have grown it systematically, Chicory has been much appreciated by their employers, and to those gardeners who are ever on the look out for some pleasant surprise for their employer's table, I say, Try Witloof Chicory, as its culture is of the simplest description, and does not entail a great amount of labour. Unless I am mistaken it is a crop that would pay from a commercial point of view, not perhaps on a large scale at first, because I fancy—as in the case of the Tomato—the public taste will require educating before a constant demand is created.

The summer culture may be lightly passed over, as it consists of sowing in drills 15 inches apart during April or May, eventually thinning the plants to 8 or 9 inches asunder, and of course keeping the whole quarter free from weeds. Thus with good roots to start with, such as may be readily produced if these simple requirements are carried out, the most important point to attend to is to grow and blanch the heads quickly. In autumn and early winter, if the weather is mild, this may be easily accomplished by covering the crowns with large inverted pots or boxes, placing over these leaves to the depth of 18 inches. Before severe weather sets in, however, the bulk of the crops ought to be taken up and laid in the soil in some position where protection can be easily given in severe weather, because successional batches of these roots will need taking up at intervals for forcing, and of course this could not be done without injuring them were the ground allowed to become frozen to a great depth. When frosts are likely to occur the ground in which the roots have been laid should be covered with leaves, straw of ferns 2 or 3 feet in depth.

I find a Mushroom house is the best possible position to force the growth in. Boxes of any convenient shape, from a foot to 15 inches in depth, answer well for placing the roots in. Large pots are also very convenient, and they frequently have the advantage of being ready at hand when boxes are not. In either case the roots should be placed 4 or 5 inches apart, the interstices being filled with soil, allowing the crowns to stand slightly above the surface. After placing whatever receptacles contain the roots at the warmer end of a Mushroom house a thorough watering with warm water should be given. Inverted pots or boxes should be placed over them, and a covering of mats or canvas added in order to totally exclude light.

If a temperature of from 55° to 60° is maintained good heads ought to be ready for cutting in about a fortnight. If, therefore, a sufficient number of roots be introduced every alternate week, a regular supply of produce may be insured. Under these circumstances the salad bowl will not draw so largely on the stock of Lettuce and Endive, and the cook's demand for Seakale, when it is not over-plentiful, will perhaps be less frequently made.—D. W.

CUCUMBER ROOT DISEASE.

IN replying to "W. E. H.," on page 605 of our last issue, we promised to reproduce an illustration which we thought would be of interest to him and to others. This we now do (fig. 3) and accompany it with Mr. Worthington G. Smith's explanatory remarks:—The root-nodules in question are generally assumed to have a fungous origin, but the Rev. M. J. Berkeley long ago described the disease, and showed it to be caused by a parasite of another nature. The description he illustrated with the utmost accuracy. It would seem that the pest which causes the mischief is not always readily seen, or maybe it escapes into the surrounding soil, or, after working the mischief, perishes; but that it is sometimes difficult or even impossible to detect, Mr. Berkeley himself confesses. For our part we have frequently seen the interior of the nodules just in the condition described by Mr. Berkeley, with the parasites in all stages of growth, from the egg condition upwards.

Our illustration represents on the left the diseased roots, natural size, and

Physic and water sometimes do wonderful things, and in the case of worms in the roots of Cucumbers, the best remedy is to destroy the plants, thoroughly cleanse the house, and in planting again get soil and manure from another source.

HARDY FLOWER NOTES.

WE have had an excessive quantity of rain of late, and the sunless weather is now delaying or making havoc of some choice Crocus species, which in a more propitious time would have been attractive. Few there are in bloom, and those look weather-sick, and in need of what they are not likely to have now—a good sun bath. Snowdrops there are, however, and though they do not expand their segments in such weather their eardrop-like pendent blossoms are very pleasing.

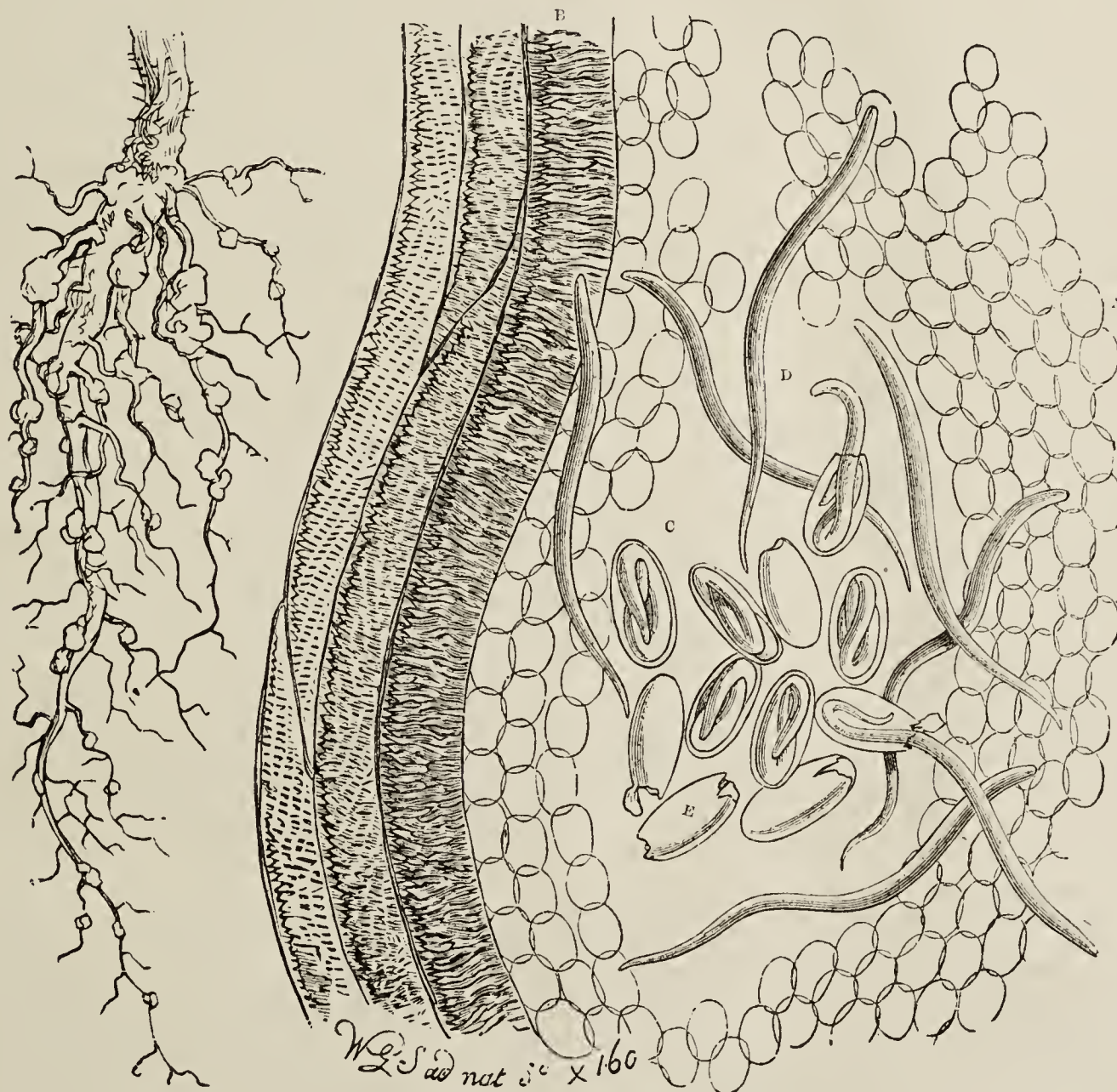


FIG. 3.—CUCUMBER ROOT DISEASE.

on the right a thin slice through one of the nodules of the roots. The latter is an exact reflection from a camera lucida attached to the microscope, and shows the cellular tissue, A; pitted and spiral vessels, B; the worms coiled up in the eggs, in the centre of the figure; worms emerged, D; and empty eggs, E, from which the worms have escaped. Mr. Berkeley refers these parasites to vibrios, which belong to the infusoria (properly confervoid Algæ), common in foetid water, &c., and always, we believe, extremely minute in size; but it will be seen from our figure, which is enlarged 160 diameters, that the animals there shown are just over one one-hundredth of an inch long, whilst vibrios are ten times smaller, and do not arise from eggs, but increase by the formation of new joints and separation at the articulations. The parasite appears to us to belong rather to the oviparous section of the genus *Anguillula*, which includes the "vinegar eel," and, except that it is only about one-half the size, it is very similar in all stages of growth to *A. Tritici*, an eel found infesting blighted Wheat.

It is often complained that men of science cannot specify cures for the diseases they describe, but it should always be remembered that in regard to cures pathological botanists considerably resemble doctors of medicine. It does not follow that, because a doctor can tell by certain symptoms his patient may have Asiatic cholera or cancer, that he can therefore cure the disease; or because a fireman sees your house is being destroyed by fire, he can from that mere fact extinguish the blaze.

The one I had as *Galanthus græcus* has finished its blooming season, but another with shapely flowers of good size is in bloom. This I got as *G. macedonicus*, and, as with so many of these, "one name is as good as another," it remains in the meantime with the original label attached. Since I got it this one has increased very little, and one wearies for the time to come (if it ever come for me) when it shall have increased to such a degree that a good-sized mass should be seen in the garden. Another one, however, of which I have written before in laudatory terms, is more promising in this respect. This is the one received via Holland from Albania, and which appears to be still known as *G.* species from Albania. It is very hardy, free-flowering, and is beginning to increase fairly well. *G. coreyensis*, or what I have as such, is still in bloom, and one received among some *G. Redontei* (true) is over for some time. *G. Elsä*, found by Professor Mahaffy on Mount Athos, for a bulb of which I am indebted to the kindness of Mr. F. W. Burbidge, is almost ready to open, and a seedling of Mr. W. Thomson's raising at High Blantyre is almost as far advanced.

Among some of the other kinds in my garden, many of which were collected and unselected bulbs, are several which appear more precocious than others, and look as if they would afford material

for proper selection. Several of these are among various lots sent me by our generous friend Mr. Whittall of Smyrna. It is not trenching, I think, on forbidden ground to say that among the many trials our friend is having in that distressful land, is that his collecting expeditions, which were doing so much to enrich our gardens, cannot be continued in the unsettled condition of the country. Among the Snowdrops he has sent I see that *G. Elwesi* var. *unguiculatus*, which came in 1894, is coming up very strongly, and looks as if it would not only be early this season, but also much more vigorous than last year. Several lots, which were in bloom when collected on the mountains last May, and which we hoped might prolong our Snowdrop season still longer, are so far advanced that one is afraid they will be no later in our climate than many others. It may be accepted as an axiom in Snowdrop growing, however, never to judge either the quality nor the time of flowering of an imported Snowdrop by its appearance the first season. Enough, however, of these chaste flowers for the present, for Snowdrop lover or Galanthophile as I am, I do not wish to speak *ad nauseum* of their beauties or their habits.

There is not much else in the way of bloom to be seen now, and, in truth, there are few who expect or look for anything. Some of the plants only show a stray flower or two, which are as little gems amid the green or grey cushions on the rockeries or amid the withered stems of border flowers, left meantime for protection to the few blooms near by.

We have the clear cold flowers of the Christmas Rose, which always reminds me of the moon on a winter night when its clear light seems to make the cold more intense as it illumines the frozen earth or the sheets of drifted snow. Beautiful they are; but how passionless! They are prized, but not loved; and why, I know not. Then there is a tiny little gem, insignificant in stature of growth and in size of flower, and withal only an annual, which is very beautiful here and there in several places. It is burdened with the name of *Ionopsidium acaule*, but by way of compassion, perhaps, is called in English the "Violet Cress." Our brethren in America call it the "Diamond Flower," and one cannot complain of the choice they have made, although our name of "Violet Cress" has the prior claim, and is also appropriate enough. A little Cress-like plant, under an inch high, with tiny bright porcelain flowers, which seem to catch the eye with their brightness, is not inaptly named the "Diamond Flower." A gem it is, and of the first water too, and one almost all can have, even if the products of Kimberley are beyond their reach. It is a hardy annual, and yearly I sow a few seeds here and there about the rockeries, and in places where the bulbs have flowered.

Then there are one or two flowers only of *Houstonia cœrulea* alba which have appeared since the plant received the second cutting over for the season, a process which seems essential if we wish to retain the plant, as it would otherwise flower itself to death. Another gem is this, with its small white flowers so sweetly pretty.

It is said that the Pansy was, among its many other names, given that of "Kit-run-about," because of its seeding so freely that stray plants come up over the garden. The Violas have to all appearance inherited this virtue or failing, and one is at this season disposed to wink at this trait, seeing that through it there are a good many flowers in bloom from these seedlings. The Pansy and Viola Society would look indignant were they presented for their judgment; and one must confess that at other times they would have a short shrift, and the plants would find their way to the rubbish heap, my little daughter generally intercepting the blooms before the same fate can overtake them. *Anthemis tinctoria*, the Dyer's Camomile, still continues to show some of its second crop of flowers; but the Michaelmas Daisies have succumbed to the weather, and delight us no more. One solitary pink *Chrysanthemum*, which is both very late and very hardy, has formed a big bush in one of the borders and brightens it up well; while Piercy's Seedling continues to give a few blooms.

The rockeries are verdant with the Saxifrages and several other plants, but we know not when they may be sheeted over with snow or shrinking before an icy wind.—S. ARNOTT.

A BOTANICAL TRIP IN EAST CENTRAL AFRICA.

THERE is, undoubtedly, a great difference between the Shire Highlands proper and the valley of the Shire River, from which the Highlands derives its name. The difference in altitude is over 3000 feet; the temperature at the river is very much higher, and, needless to remark, the flora of the Shire Valley is not only more varied, but composed of richer species than those found on the colder, more bracing, and less malarious uplands. We have visited the Shire Valley to add to our present collection of the flora a few of the river species.

Accompanied by a few carriers and "Machilla" boys, we started from our bungalow in the early morning, reaching "Hunterstone" (the Cholo residence of R. S. Hunter, Esq.) in good time for breakfast. After partaking of his kind hospitality we made for the Cholo range of hills, over which we must climb to reach the river. In traversing one of the valleys we came across some magnificent clumps of Palms, a *Raphia*, undoubtedly, and closely allied to *Raphia Hookeri*. The filaments of the leaves are of a slightish blue-green in colour, while the midrib is of a light sulphur-red, and when a clump of these Palms are seen growing luxuriantly, with leaves from 20 to 40 feet in length, it will readily be believed that this *Raphia* is one of the most striking and beautiful Palms in the whole of Central Africa. The wild Date Palm, *Phoenix spinosa*, is also plentiful in the valleys.

Continuing our journey we soon reached the top of the hills, and then began our descent on the other side. Gradually as we descended we left behind us the more familiar trees and shrubs of the Highlands. The Msuku (*Napaca Kirki*) one of the most common trees in the Highlands is rarely found below 2000 feet altitude, but, if we left behind us old friends, we none the less came across many new ones whose acquaintance we should like to make. As we journeyed down, over the brow of the hills, the country we passed through seemed wonderfully rich and fertile. Species of *Crotalaria* grew on every side, while the Acacias, loading the air with their perfume, were mingled with prickly shrubs and handsome masses of Bamboos. Occasionally, through the interstices of the trees, we caught a glimpse of the Shire River moving onward to add its quota to the Zambesi. Its broad and transparent current looked like a great coloured snake—winding and twisting about against a background of fairest green, while far away on the distant horizon a range of mountains closed in our view. As we stood on the brow of the hill, and gazed on the scene before us, our thoughts were borne away to another river. We looked upon the many windings of the Shire, and we tried to compare them to the windings of the Forth below Stirling Castle.

The day was closing in as we neared Makwira's village, and the Chief himself seeing us coming came forward to welcome us. Makwira is a splendid specimen of the Makalolo, and a descendant of one of Livingstone's old boys. He is very stout—perhaps just too stout—possibly from drinking too much "Palm wine"—a "valiant Tobacconalian," and of course very much married. He informed us he had only about twenty wives; had he said thirty or forty he would have been more correct (but in Africa we must take a great deal of what is said to us *cum grano salis*). His English vocabulary is limited to about twenty words, which are being continually aired; but that was no hindrance to us carrying on a lively conversation. He is always pleased to see Europeans, whom he welcomes with every degree of native hospitality.

The following day, accompanied by guides, we made an excursion to the other side of the river. On each side extends an immense plain, stretching inland for many miles. In some parts it is thickly wooded, the trees for the most part comprising the Baobab, Acacias in variety, Euphorbias, and Hibiscuses. A handsome tree is the "Meombwa" (*Pterocarpus marsupialis*), which is the one principally used for building stockades around villages. I cannot do better than quote what the author of the Shire Highlands, Mr. John Buchanan, says regarding the "Meombwa" tree. Regarding building stockades he says, "The cuttings, for such they are, though requiring to be carried by two or three men, are set into a trench as close as they can go together; they root readily, and soon put forth young shoots, which gradually develop into branches. Owing to their being so closely packed, however, they last only for a few years. I have seen handsome trees grown from cuttings of this description, that had all the appearance of trees grown from seed; but they were planted in good soil, and had plenty of room." The entrance through the stockade is narrow, being little more than wide enough to allow a man to pass through having first stooped. The space is filled from inside by a wooden seat, which had once been the bottom of a canoe. Outside the entrance is an arch of Euphorbia with a piece of Bryophyllum intertwined. This Bryophyllum is one of the few species whose leaves, when placed in a suitable position, emit roots at their margins, at the same time developing on their upper edge a pair of leaves, which generally assume the true form of a plant. All around the stockade are species of Acacia and Euphorbia, both of the most formidable character and appearance.

The tallest tree in the district is undoubtedly the "Njale;" it has a clean, straight, unbranched stem, and grows to a great height. The undergrowth at once attracts attention; it is principally composed of species of Indigofera, Hibiscus, Solanums, Convolvuli, and others, and several dangerously prickly plants,

which, growing together in an almost impenetrable mass, makes walking through it practically impossible.

Towards the close of the afternoon we began to retrace our steps to Makwira's village. In coming up the river in our canoe we noticed growing along the river banks some magnificent masses of the common "Bango" reed, scientifically known as *Phragmites*. Their large white plume-like blossoms, not unlike the Pampas Grass, looked very graceful waving above the dark green of the foliage. Of *Convolvuli* there are some handsome species, one in particular having flowers of great substance, pure white in colour with a dark purple throat, which, if it was only introduced, would certainly prove a great acquisition to our greenhouse climbers.

After staying for another night in Makwira's village we set off the following morning on our homeward journey; but before wishing him "Good-bye" we took particular notice of a crocodile's skin which was being stretched out in his village, Bwalo. No doubt the wideawake fellow saw us admiring his treasure, and scenting a handsome present he turned round to us and said, "Would you like the skin? I will send it to you." We thanked him, and replied that we should very much like to become the possessors of it, and shortly afterwards we parted. Our return journey, occupying us fully two days, was made via "Katungas," and thence over the hills to Blantyre, and soon to Cholo.

Makwira, true to his word, sent us up the crocodile's skin. It is only 13 feet in length, not by any means a large specimen; but it is splendidly cured. Accompanying the present was a letter. Let us close this article by quoting an extract from it. "I send you the skin. I am well. Will you send me a 'Chapewa' hat?"—G. A., *British Central Africa*.

FLOWER SHOWS.

"A SCOTTISH GARDENER" must surely have been very unfortunate in his experience when he holds that swindling has become so prevalent at flower shows that they ought to be done away with altogether. If, as I gather from his letter, he takes his facts from a newspaper article, he must remember that this has probably heaped together offences which have taken place over a very wide area both of space and time; and if he will make a calculation as to how many innocent flower shows have taken place in the same area he will, I think, be able to gather that the per-centage of swindlers among exhibitors is still very small, notwithstanding the facts accumulated against them. I have had a good deal to do with flower shows in the last sixteen years, and I only remember one case of swindling.

That "the general public seem to have but very little sympathy with the flower show" is a statement which undoubtedly has some truth in it. They have not, unless other attractions are added, or it is made a society function. They do not view the exhibits with the eyes of experts, and consequently one slow walk through the tents is enough, and this may not unfrequently be done in little more than half an hour. What then? Are they to go home? If so, they will certainly not come back again next year. They must, of course, be entertained by a band and other attractions, which will also draw their friends, and conversation may lead them through the tents once more to see something which they are accused of having missed.

And what is "A Scottish Gardener's" remedy? Nothing new. Old readers of the *Journal* will recognise it as one of our "hardy annuals." It is "to do away with money prizes altogether, and substitute instead certificates." Certificates! I think I should have got a good many certificates by this time; but I cannot think what I should have done with them unless they had been used for papering a room, and that is not a style of decoration that I admire. I shall never forget the comical indignation of my then assistant when we got "highly commended" for a stand of Roses at some show—I suppose a National one. He had never seen such a card before, and could not make out what it meant. When he found that there was really nothing "belonging to it" but the card itself it was very amusing to see how he looked upon it as an insult instead of an honour. I heard him muttering, "Highly commended, indeed!" under his breath, not only on that day, but for several days afterwards whenever he was a little put out.

The simple answer, of course, is that I, and no doubt many others, cannot afford to contend for "barren honour." If we cannot recover our expenses, or at least a considerable portion of them, by the prize money, we must give the whole thing up. It is not a case of what we should like to do, but of what we can do. To meet this answer, "A Scottish Gardener" says, "It does not cost more to grow good vegetables, fruits, or flowers than to grow inferior ones." If by "good" he means good enough to beat others in severe competition I must take complete exception to such a statement. It is a well-known truth that it does not cost more to grow a good *variety* of vegetables or fruit or flowers (or horses or cattle or sheep, for the matter of that) than a bad one, and this truth, though well known, is often much neglected. But to grow really first-class *specimens* does undoubtedly cost a great deal, if not of money, of time and trouble, and care and forethought, and experience; and these things represent money, and can only be repaid by it, though, of course, those who are rich can afford to forego the repayment.

"A Scottish Gardener" does not seem to think much of travelling

expenses, but I can assure him he will find them very serious, if the distance is long and his exhibits weighty and numerous. But he thinks apparently that it would be a good thing to keep the gardener from exhibiting away from home, and has an odd idea that this would tend to keep exhibits up to a high standard. Travelling expenses have increased lately, for the G.E.R. used to let me take my Rose boxes free of charge for excess luggage, but they will not do so now. I consider that I did very well at the Gloucester N.R.S. show this year, but my prizes did not cover my expenses.

Though I cannot agree with "A Scottish Gardener's" aims or arguments, his views are shared by some others of his countrymen. It was to a Scottish show that I was invited to send this year, where the first prize for (say) twelve Roses was, I think, about half-a-crown. I am not sure of the sum offered or the class to which this heavy prize was attached, but the prize belonging to the class was, at all events, money of such very small value as to make it clear that the honour of winning was meant to be sufficient reward. In *this* case it was I think a pity that the money was not omitted altogether, as it is plain I could not go to Scotland and back with my Roses without disbursing a great many half-crowns. The honour may have been all right and very valuable, but I afraid a booking clerk on any railway would attach as little value to a "certificate" as my assistant did to the "highly commended" card. These are my views, simply, that a great many of us cannot afford the expense of growing for exhibition, and especially of conveying ourselves and exhibits by rail, unless we see some prospect (for we cannot make sure) of repaying ourselves by money prizes.—W. R. RAILLEM.

I do not intend at the present juncture to begin a discussion on the main points raised by "A Scottish Gardener" in his indignant, but by no means weighty effusion (page 574), because I feel sure that the glaring absurdity of some of his propositions will meet with swift demolition from other pens. There is, however, one significant passage in the article of the canny Scot which I cannot allow to pass unchallenged, because the general acceptance of the principle there advanced would speedily lead to the utter demoralisation of gardeners, not only throughout Britain, but throughout the civilised world.

The sentence I take such strong objection to runs thus, "It does not cost more to grow good vegetables, fruit, or flowers than to grow inferior ones." This, I think, will come as a startling revelation to the ablest and best of British cultivators, who know perfectly well that to produce superior examples of any crop extra expenditure in the matter of material, labour, and brains are absolutely necessary. I grant that it is quite possible to have abundance of the two first-named essentials, and yet have only inferior produce as the result; but when the three are found in combination they soon show the uselessness of attempting to make bricks without straw. Instances innumerable might be advanced in support of my contention; I will be content with one. Not long ago I paid a visit to the haunts of childhood's days, which at the present time happens to be a great fruit-growing centre. In the old days I remember fruit orchards abounded in the district, and the method of culture adopted was to plant the trees, gather the crops, trim the trees into shape occasionally, and for the remainder of the season leave them to take care of themselves, a proceeding which I think all will agree was simplicity itself, and which possessed the one merit of costing but little. This parsimonious system of culture, however, in time leads to such results as must always follow when the requisite expenditure of material, labour, and brains are withheld; in short, in inferior crops, which often did not pay to send to the markets. The cost of production was reduced almost to a minimum, the value of the crop was nil.

My recent visit, however, revealed quite a different state of affairs. Fields of corn and Hops have given place to thrifty young fruit plantations. Decrepit trees and ancient orchards have almost vanished from the scene, as a few enterprising spirits showed their neighbours that if fruit growing was to be a profitable industry it must be conducted on scientific lines; that the trees must be regularly thinned, those bearing heavy crops sufficiently manured; that insect pests must be coped with, instead of as in the old days allowing them to go unchecked; that fruit must in some cases be thinned, and then properly graded before being sent to market.

These items, although they appear simple on paper, mean a great addition to the cost of production; but fruit growers know well that it is the only way in which fruit growing can be made to pay, for inferior rubbish in times of glut is grown at a great loss, while the finest samples command remunerative prices. Truly, the ignorance of Englishmen must be deplorable when they are content to go on spending so much of their hard-earned coin in order to secure good produce, when a Scotsman tells them "it does not cost more to grow good crops than to grow inferior ones."

Our friends from over the Border have at times been known to boast in a somewhat overbearing strain of the lessons they have taught us English gardeners; indeed, I have sometimes thought when reading their effusions that they must have been the pioneers of all that is best in high culture. But how sadly they are degenerating, for in the closing years of the nineteenth century we have a canny (?) Scot advancing the obsolete doctrine that success in culture may be achieved with as little cost as failure. Truly, we live in wondrous times; at least, so thinks—AN ENGLISH GARDENER.

A "SCOTTISH GARDENER," in the *Journal of Horticulture* for December 19th (page 574), very justly condemns the practice at flower shows of exhibitors taking prizes with other people's produce. At the

same time he expresses himself as long having had a faint suspicion that flower shows as exhibitions for the promotion of higher gardening are fast becoming a failure. Whilst I as strongly condemn dishonourable exhibiting as he does, I hold quite a different opinion as to the utility of flower shows. After twenty years' experience in the management of shows, I am sure I shall be excused if I venture to first give my opinion as to their value as educational institutions, then point out the surest way of getting together an exhibition worthy of the name and a credit to the neighbourhood in which it is held.

In the first place, then, I must say that if the Committee of any Horticultural Society wish to bring about an exhibition failure they have only to do away with their money prizes, and they can have it to their heart's content; on the other hand, if they wish for increased success, they have only to increase their prizes as much as their funds will allow and they will find the greater their prizes the greater their success; at least this has been my experience, which extends over a long time in connection with one of the most successful shows in the Midlands. Liberal money prizes form, in my opinion, the only safe and sure foundation on which to build a successful exhibition, for whilst they are a source of revenue and of honour to the successful competitor, the grand exhibits these prizes bring together are a source of stimulation and education to the non-competing gardener and amateur, who, having the opportunity, are sensible enough to visit these exhibitions.

Many there are, both amateur and gardeners, who are indebted to the influence of these exhibitions for the position they hold as growers of the various products of horticulture. Take, as an example, the cultivation of the Chrysanthemum. I have known cases where young men have come fresh into this neighbourhood, having previously been in places where the Chrysanthemum was very poorly grown, or where perhaps you could scarcely say it was grown at all; and yet after a short stay in a district, "which has become the home of the 'mums,'" they have come well to the front as growers of this noble flower, although they may not have patronised the exhibition board. And what has brought about this change—this new development of horticultural skill—but the fact that they have been attending these grand exhibitions of ours. They have seen flowers which have been a source of wonder and admiration, and, like true Englishmen, have gone home with a determination to equal if not excel anything they may have seen on the exhibition board.

We have only to show a gardener something good, and, if he belongs to the best type, he will be sure to try to produce something better; nor does this remark alone apply to the rank and file of exhibitors, as we know that good things are to be found amongst the non-competing gardeners, and it is here where we find the beneficial influence of flower shows. If their influence for good were confined to the exhibitor alone I should say the sooner flower shows are abolished the better. This would be a most unfortunate thing both for gardeners and employers of gardeners in this country, for it is these great shows and wonderful exhibits that stimulate and bring into action abilities possessed by individuals which otherwise would remain dormant or undeveloped. How often do we see men of mature age in possession of natural abilities who, if they in past times had the opportunities our young men have now for early education and cultivation, they would now have been scientific masters of their profession and invaluable members of society. But the value of flower shows to gardeners is not to be considered from an educational point alone, there is the higher position he occupies in the estimation of his employer in proportion as he exhibits the improvement in his education as a gardener, in consequence of which he has a better chance of getting an increase of wage, as many have done, and a better prospect of a good situation when he should feel disposed to make a change.

Now let me say a few words as to dishonest exhibiting, and in doing so I would like to warn young gardeners against a temptation which often presents itself, "supported by a great desire for fame," to exhibit other than produce of their own growing. If there are any young men who are looking forward to the time when they may have the opportunity of entering the field of competition, let me beg of them, "if they wish to maintain the honour of their profession and the respect of their opponents and fellow gardeners," never to attempt to gain honours except by their own skill and industry. To gain "honours" by exhibiting the product of others is only worthy of men of the meanest kind—men whose ambition is greater than their abilities, and whose greed for money blinds them to all sense of honour and justice to their opponents. Such men are a disgrace to the craft to which they belong. They are as lepers in the ranks of horticulture, whose presence ought not to be tolerated at an exhibition, while they should be avoided by all respectable members of the gardening community. They are specimens (happily rare) of a class who would not only deceive the general public, but deceive themselves, rob honest exhibitors of their rights, and thereby damage the cause for which exhibitions were established. Therefore I would say to all young men whose ambition may lead them to become exhibitors in the future—see that all prizes are honourably won; you will then be worthy of the craft you adorn, and your action will demonstrate in the most forcible manner the immense utility of flower shows.

As a specific illustration of the good influence of flower shows I may mention the June show that used to be held at the Botanical Gardens, Birmingham, twenty-five years ago. Pelargoniums used to be grown and exhibited in great perfection, specimens 5 to 6 feet across, and wonderful examples of high culture. There was scarcely a gentleman's

place in the neighbourhood where the gardener did not make some effort at Pelargonium growing; but immediately the June show was discontinued the interest in the cultivation of the Pelargonium subsided. Again, I may mention the best influence our November shows has had in the cultivation of the Chrysanthemum, not only in this district, but throughout the Midland counties; would anyone for one moment think that the "Mums" would have been grown to such perfection to-day without these exhibitions? "Certainly not;" only do away with the prizes that stimulate the exhibitor and you will soon lose the shows that stimulates the non-exhibitor, and owners of gardens generally will suffer in the loss of those superior flowers, fruits, and vegetables, which now so satisfactorily supply their wants and adorn their homes and conservatories.

Then there is the indispensable nurseryman or seedsman whose advantages are even greater than either the employer or his gardeners, inasmuch as these shows give splendid opportunities for bringing before the public specimens of anything new and meritorious they may possess in the way of plants, flowers, fruit, or vegetables; and if they deserve it they get noticed by the judges and reported in the press, which add materially to their commercial value. Flower shows keep alive that intense love of everything horticultural among the masses and the classes which alone brings work for the gardener, pleasure to the employer, and consequently trade for the nurserymen and seedsmen. In conclusion, I may say that I, for one, shall like to see flower shows continued, large prizes maintained, and honest exhibiting enforced, in which case the utility of flower shows will, I feel sure, be demonstrated to the satisfaction of even a "Scottish Gardener."—J. HUGHES, Birmingham.

GRAPE GROWING AT BYFLEET.

THE Petersham Vineries, where a notable exhibitor of Grapes in other days, Mr. J. Bury, formerly of Forest Hill, is now engaged in Grape production for market, consist of two very long span houses, each 360 feet in length, and situated close to Byfleet village, lying about a mile from the South-Western Railway, and nearly midway between Weybridge and Woking. The houses were erected on private ground, all around which, though at some distance, runs a broad belt of trees and shrubs, so that useful shelter is afforded.

The soil is of a very fine sandy nature, though fairly deep. Coniferae do splendidly on it, and so do trees and shrubs generally; yet it is probable that had any experienced Grape grower been invited to give an opinion as to its merits for Grape culture he would have condemned it as far too light. However, the result shows that even the opinion of experts may sometimes be discounted by experience. The houses are each spans, and 25 feet wide. They are each heated by two double rows of 4½-inch pipes, placed on each side, but as the boilers are fixed at one end of these very long houses it is obvious that no great amount of heat can be supplied at 300 feet and more off, though partially divided into three divisions, yet not effectively so, and practically each range has to be treated as one house.

The earlier range is planted for about one-third its length with Black Hamburgh Grapes. Those being nearest the boiler get most warmth, and can thus be got ready for cutting fairly early. All the remainder of the house is planted with Muscat of Alexandria, which does not get any great amount of heat, but still evidently enough for the variety. The Vines are planted some 4 to 5 feet apart along on each side, and reach the top throughout, having been established several years. Mr. Bury took possession only last winter, and found mildew very prevalent. That trouble he has had to combat, and he is still doing so, so far as he can, in the hope of destroying resting spores of this pest. Still his crop for the past year has been wonderfully good, and the appearance of several hundreds of bunches, standing in bottles, and in the house, shows that this Muscat delights in a sandy soil. There is colour, of rich amber, high flavour, solid flesh, and a stout skin.

There is no sign of shrivelling, due, Mr. Bury asserts, to the giving of ample light to the Grapes, as that is a great essential to the production of stout skins and solid flesh, so that no shrivelling results. With reference to Madresfield Court Grape, of which he has had wide experience as a grower, Mr. Bury asserts that the best preventive of skin cracking is found in tying back the foliage and exposing the berries to all the light possible, so as to make the flesh firmer and the skins stouter, whilst too much shade serves to create watery berries that have thin skins. Muscat Grapes, as times go, seem to sell well, and the lament here is that, because of the present great demand for them, the grower has not tons at disposal. In the other house those well-known market Grapes, Alicante and Gros Colman, are alone grown. It need hardly be said that Alicante colour splendidly here, and the crop is a very heavy one. Bunches are of good market size, 1½ lb. to 3 lbs., the berries fine, and, for this Grape, quite highly-flavoured.

The Gros Colman are, too, a great crop, generally colouring well. The berries are large and the bunches of most useful size for market purposes. In this house the Vines are 5 feet apart, but here and there rods are being carried up to occupy some of the spare space. The ranges have this year given a crop exceeding 3 tons—not a bad turn out. Apart from top-dressings of animal manure, which is hard to get, the borders, both inside and outside, have occasional dressings of muriate of potash, whilst Thomson's manure was freely employed when the Vines were planted. Mr. Bury has been a very successful exhibitor of Grapes at shows this year.—A. D.

EVERGREENS.

EVERGREENS are among the things not generally understood, and though we have nowadays far greater opportunities of observing them than the people of olden times, it is still an extremely prevalent delusion that they do not shed their foliage like other trees. They do, of course, drop their leaves, and most of them do it annually just like the Oak or the Elm, only they do it in the spring instead of the autumn. With most evergreens the process of leaf-shedding is exactly the same as in the case of deciduous trees. A transverse section of the cells at the foot of the "petiole," as botanists call the stalk of the leaf, becomes disintegrated, and the leaf falls by its own weight or is shaken off by the wind. Both evergreens and deciduous plants are subject to this process of separation at the bottom of the leaf stalk, the only difference being the time at which it occurs. In most of our trees, native and imported, the leaves fall at the end of the summer. Most of the evergreens hold on to their foliage till next spring calls forth another crop, and then shed the leaves of the year before. The cause of this is probably the difference of texture and constitution of the two classes of foliage. The evergreen leaf is generally firmer in its texture, harder and thicker, and under the microscope the make of the leaf presents conspicuous differences, suggesting that for all their lustrous vigour evergreens live a decidedly slower life than their frailer rivals. They have fewer breathing spores or stomata, as they are called, on the under-side, and none at all on the top.

Life is a slower thing, and hence perhaps it is that most evergreens take longer to grow than deciduous trees, and are very hard and dense in the texture of their wood. Trees of all kinds vary a good deal in the tenacity with which they hold their leaves. Some deciduous ones shed their foliage and put on a second crop in the same summer; on the other hand, there are many cone-bearers to which the same foliage will cling for ten years or even more. In some cases this persistency seems to be due to the fact that what takes the form of foliage is really part and parcel of the bark of the tree, and falls only when the bark is shed. Between deciduous trees and evergreens there is no very decided line of demarcation. Many plants seem to belong to one or the other class according to circumstances. Thus the Honeysuckle, in favourable positions, will preserve perpetual green, while the Privet, which is ordinarily more or less evergreen, will often be stripped of its leaves in a severe winter and an exposed position. The Rhododendron, which maintains a brave show of lusty greenery all the year round under ordinary conditions, will forego its rank in very severe winters and become a rusty brown.

We have, however, a very large collection of shrubs that will bear any amount of cold and biting winds, though very few of them are natives of this climate. The Holly, of course, is a native Briton, and nothing more beautiful of the kind has come to us from any quarter of the globe. We can claim also the Ivy, the funeral Yew, and the Box, and that pretty well exhausts our native list, unless we include the Furze and the Heather. All the rest that come under the designation of evergreens have been imported at various times. All kinds of Laurels, Laurestinas, Aucubas and so forth, are foreigners without exception. The great features of old-fashioned pleasure-gardens until our merchant ships began to push their way into distant parts of the earth, and our horticulturists began to interest themselves in foreign growths, were Holly, Ivy and Box, and beautiful old gardens they were very often. The fact that Holly and Box are both extremely slow growers and require generations to make any great show of themselves, gave to gardens in which they were well established an aspect of venerable age. High and thick edges of Box and well-grown Hollies gave something of that aspect of stability and permanency to small gardens that fine timber lend to a park, and there was nothing old-fashioned gardeners were prouder of than of their giant Hollies, their Box walks, and their "topiary" achievements in clipping out evergreen cones and pyramids, birds and beasts, and other fanciful productions of the kind. Such things are still to be seen here and there, but Boxes have been relegated quite to the background by shinier shrubs, and the Holly has lost much of its importance as an ornamental shrub, though in the prime of its winter beauty, and thickly clustered with berries, there is hardly anything that can come near it—certainly nothing equal to it—for winter effect.

We have an astonishing variety of winter greenery now, and not only "greenery," for many "evergreens" have developed a marvellous variety of colour, and any one who does not mind a little expense can now fill the beds of the open garden with bronzes and browns and reds and yellows and purples, almost as varied, if not as vivid, as in the summer. One of the most valuable of our imported evergreens was the common "Sweet Bay," which has been ours now for more than three centuries, and for many a long year was immensely popular. It is as hardy as Holly, and though it cannot be compared with it in shining, lusty vigour of appearance, it is lighter and brighter in colour, is very easy to propagate and quick of growth.

The Aucuba, the Variegated Laurel, as it is popularly called, is a much later import and comes to us from Japan, which, by the way, has quite recently, comparatively speaking, sent an invaluable addition to our stock of evergreens in the Euonymus, the dark shining shrub that seems to grow everywhere and under any conditions. This came to us about the beginning of the present century, and what with the plain olive green of the original importation, and the gold and silver varieties that have been evolved from it has been a great acquisition to our shrubberies.

But the greatest of all accessions to our stock of evergreen shrubs has, of course, been the Rhododendron. Several parts of the world have

contributed to the immense variety of this charming plant, which has now become thoroughly naturalised, and which in itself has entirely altered the early summer aspect of gardens and parks, and that within living memory. Countries as widely separated as India and Kamschatka, Spain and Siberia, have contributed to our wealth in these magnificent flowering shrubs, which under all ordinary circumstances are perfectly hardy and wonderfully easy of cultivation in a general way, though there are some localities in England in which it is said they cannot be induced to make themselves at home. Such is our wealth in evergreen shrubs now that we may almost lose any sense of winter desolation, and may keep our gardens almost as well furnished and as fresh and verdant in winter as in summer. It is difficult to realise that there ever was a time when Holly and Ivy and Box were the only resources for English gardens in winter, with the addition of the Yew for those who did not object to it on account of lugubrious aspect and its almost inseparable association with churchyards.—("Daily News.")



HARDY FRUIT GARDEN.

Applying Liquid Manure.—During mild periods in the winter liquid manure from cesspools or pits that are being emptied of their contents may be advantageously poured on the soil over the roots of large old fruit trees either on grass or in gardens under general cultivation. Young vigorous trees that are already making plenty of wood should not have the soil still further enriched in this way, as it may tend to produce unmanageable growth, and defer their fruiting. All trees, however, of a weakly character, or which have had the soil impoverished by continuous cropping, cannot fail to be benefited by such assistance.

The food thus conveyed into the soil will partly be appropriated by the most active roots at once, but a large proportion of it will be stored in an available form in the soil ready for the roots to draw on in the forthcoming season. The soil surrounding large fruit trees is frequently deficient in moisture at various times, but at the present period of the year the ground should be moist to a considerable depth, and liquid nourishment from tanks and cesspools will be better retained by the soil than during dry periods, when it would quickly pass beyond the area of the roots. Dilution of the liquid need not be adopted to a weakening extent, as its strong properties will soon be distributed in the soil.

Trees having a quantity of deep roots require the food at a lower level than surface-rooting trees. In order that the liquid may reach them readily make holes with a crowbar at intervals over the space covered by the branches, and fill up several times. Water in the soil has the power of passing from particle to particle in all directions by means of surface tension, hence the soil lying between the perpendicular holes readily becomes moistened and enriched by the food elements dissolved in the liquid.

Washing Fruit Trees—One of the most effective cleansers of the wood and branches of fruit trees is a solution of soda and potash. The method of preparation consists in dissolving half a pound each of caustic soda and crude commercial potash in 5 gallons of water. Thoroughly mix the solution, heat it to a temperature of 120°, and apply to the trees with the aid of a spraying apparatus. For stone fruits the solution should be half strength. On all trees this dressing destroys insects and their eggs, including scale and red spider. Mossy growths and lichens will succumb if not encrusted round the stems too thickly, in which case the greater part should first be scraped away without injuring the bark.

A spot, lime, and sulphur mixture is good for brushing over the trunks, stems, and larger branches of trees for cleansing them of green mossy coverings and lichens. The proportions for mixing this kind of dressing are—lime, 7 lbs.; spot, 3½ lbs.; sulphur, 5 lbs. Mix in a soft-soap solution 1 lb. to a gallon of water. The quantity of soapy solution needed depends on the amount of wash required, which must be brought to the consistency of thin paint. The mixture is applied with better effect when warm, and the wood is more easily covered when slightly damp.

Destroying American Blight.—This pest on Apple trees requires strong measures to insure its eradication. The white cottony substance which encloses the insect is not so conspicuous now as in the summer; but as the insects harbour in crevices and canker-like swellings in the bark the infested spots are easily located. Apply methylated spirits of wine to the affected parts with a half worn-out painter's brush. Petroleum also destroys the insects, and should be used in a similar manner, being careful not to use the brush too wet or allow the liquid to run down the bark. In badly infested cases more than one application may be necessary, a careful dressing in the summer when the insects are more conspicuous being of great advantage. Another serviceable remedy suitable for severe attacks is gas tar mixed with clay and water. Mix a pint of tar with a pint of finely powdered dry clay, adding to it a gallon of hot water. This brings the mixture when well incorporated to a thin paste, easily applied to the trunks and stems with a brush.

The smaller shoots and around the fruit buds and spurs had better be dressed with the petroleum or methylated spirits if these parts are affected with the blight.

Destroying Red Spider.—Trees or bushes that had their foliage infested in the summer with red spider ought to have the stems and branches dressed with an insecticide; Gishurst compound, at the rate of 8 ozs. to the gallon of water, forming an effective solution, which may be thickened to the consistency of paint by the addition of soot and clay. This adheres to the wood, and marks the progression of the work. Young Apple trees in the form of bushes, pyramids, and espaliers in the open, and cordons against walls, are all liable to infestation by these small insects. They collect round the nodes and form quite coloured patches, which cannot be better destroyed than at the present time. The soda and potash solution is also an excellent destroyer of this pest.

Pruning Outdoor Vines.—In many cases the side growths may be cut in to one or two buds, avoiding leaving the growths on spurs longer than this at each winter pruning. Old rods that are not fruitful, owing to the presence of aged spur growths, had better be discarded for younger canes originating at the base, either training these to take the place of the former, or for covering vacant places only, shortening them at various lengths within 4 feet, this length of wood being invariably well ripened. If the wood retained is not crowded the Vines will be very prolific, and the system of cutting out fruiting shoots annually, training-in young new wood to take their place, might with advantage be continued. Some, however, will adhere to the spur-pruning system, from which good crops can also be had, especially when the rods are periodically renewed.

FRUIT FORCING.

Vines.—*Earliest Forced in Pots.*—Exercise great care in ventilating, avoiding chills, such as those resulting from cold currents of air, admitting it chiefly by the top ventilators, and only moderately when the air is cold and sharp. As the foliage is developing root action will be excited, and should be encouraged by supplying tepid water at a temperature not less than the mean of the house nor much exceeding it. Disbud and tie down the shoots before they touch the glass. Do not be in too great a hurry in stopping or restricting to a certain number of joints, but as Vines in pots are generally restricted to limited space, stopping is usually effected at the joint beyond the show of fruit, the point of the growth being pinched off when the leaf at the joint is about the size of a halfpenny to a penny piece. The laterals as they show are pinched at the first joint, and this procedure is also practised on the sub-laterals as made. Thus root action is accelerated and maintained by the developing foliage, which is quite as necessary for absorbing as the leaves for elaborating nutriment. Maintain a night temperature of 65° until the flowers open, and then keep the house at 70° to 75° by artificial means, with a rather dryer condition of the atmosphere. As soon as the fruit is set, supply liquid manure copiously whenever water is required at the roots, but only when the soil is becoming moderately dry, maintaining a moist atmosphere by damping the paths two or three times a day, and occasionally with liquid manure, keeping the evaporation troughs charged with the same, taking care not to use the liquid too strong or the ammonia will injure the foliage.

Early Forced Planted-out Vines.—As the growths develop, root action proceeds, and should be encouraged by top dressings of superphosphate and blood manure in about equal proportions by weight, adding a fourth of sulphate of potash to the mixture, and supplying about 4 ozs. of the combined compound to the square yard, watering in moderately. If fermenting materials have been introduced into the house, they should not be allowed to decline in warmth, but be added to from time to time, having a good heap of leaves and stable litter in reserve, from which the supply of sweetened material may be drawn as required, the outside, if one—a great mistake in early forcing—must be well protected from frost. Do not be in a hurry in disbudding, but let the growths proceed until it can be seen which give the most promising show for fruit, and then disbud gradually. Tie down the shoots before they touch the glass. If weakly, stop them at three or four joints beyond the bunch; if strong they may be pinched at one joint beyond the fruit, and then pinch the laterals to one joint as regards the weak shoots, and leave two or three on strong growths after the flush of sap has been concentrated on bunch, extending the growth so as to secure a supply of well-developed foliage all over the house. Remove surplus bunches as soon as choice can be made of the best, reserving the most compact and avoiding over-cropping. Maintain a night temperature of 60° to 65°, 70° to 75° by day, and a genial condition of the atmosphere by damping the paths and walls two or three times a day.

Houses to Afford Ripe Grapes in June.—The Vines for this purpose must be started at once, for though they may be forced so as to afford fruit in May, they are best brought forward gently, and a margin allowed for unfavourable weather. The outside border must be well protected from inclement weather, as the roots cannot possibly act in frozen ground. If fermenting materials are used they must be kept uniform in temperature, and if that cannot be effected, it is better to dispense with them altogether. A good thickness, say 6 inches of dry leaves, fern or litter, and so disposed in a sloping manner as to throw off the wet, answers admirably. Inside borders will need a supply of water at a temperature of the mean of the house to bring them into a proper state of moisture, being careful not to make the soil too wet, as that hinders root action, and may be the precursor of that sodden and sour condition which inevitably results in shanking and other ills.

Fermenting material introduced into the house, and formed into a ridge-like heap on the floor, turned over frequently, adding fresh as necessary, will give out heat, moisture, and ammonia, highly conducive

to a good break, and save fuel. The temperature should be maintained at 50° to 55° by artificial means, advancing to 65° from sun heat. Damp the house and Vines two or three times a day, but do not keep them constantly dripping with water, for that only encourages aerial roots. Ventilate on all favourable occasions, for a sweet atmosphere has a decided effect for good on the Vines.

Early Houses of Muscats.—To have Muscat of Alexandria ripe in June the Vines require to be started in good time, but there is little gained by commencing so early that the growths are made when there is little prospect of sun. The beginning of December is quite early enough to start houses of this variety or where the Vines have been started before at the new year, as they readily respond to excitement, the heat ranging from 55° to 60° artificially, and when the buds break raising it to 60° to 65° at night, and 70° to 75° by day. Then the growths will develop properly, forming leaves of good size and (with due attention to ventilation) substance. The roots of the Vines also must be entirely inside, and under such conditions Madresfield Court does first-rate, it being difficult to tell which is the better Grape for marketing purposes, both bringing good prices at the time named. Duke of Buccleuch also commands good prices, and it certainly likes similar treatment—that is a drier atmosphere than most Sweetwater Grapes when ripening, otherwise it spots, and is worthless. The other two will stand far more moisture, and are better growers, indeed, the "Duke" requires a house to itself.

Houses from which the Grapes have been Cut.—Vines should be pruned, as a rule, shortly after the leaves fall; but this is often delayed on account of Grapes hanging. Thus the Vines are deprived of that complete rest which pruning and keeping them cool assures. Healthy Vines may be cut to one, or at most, two buds; but weakly Vines, and those with long-jointed wood may be left a little longer, cutting in all cases to a plump bud. This will cause the spurs to become long sooner than by close pruning, and necessitate a renewal of them on the rods, which it is easy to effect by encouraging a growth from the base of the spur or the rod, and cutting away the old in favour of the new. The extension system is perhaps the best under such circumstances, having a succession of rods from the main rod, and cutting out those that reach the extremity of the space to a cane nearer the base and well situated for displacing that cut away.

Thoroughly cleanse the house, removing all loose bark, but avoid close peeling and scraping the Vines, as is often done, down to and into the new bark and wood, and wash them with tepid softsoap and water, 3 or 4 ozs. to a gallon, following with a combined fungicide and insecticide if there have been any fungous or insect pests. Remove the surface soil or mulching down to the roots without injuring them, raising any that have a tendency to descend, supplying fresh material, good turfy loam being the most suitable, with an admixture of some approved fertiliser. The house should be kept cool, but vineries are frequently utilised for plants, and the temperature kept warm on their account, which is prejudicial to the Vines. The plants are not always clean, and the insects pass from them to the Vines, hence so many vineries are often infested with mealy bug, red spider, and thrips. The temperature ought not to exceed 45° by artificial means, and plants only needing protection from frost should be placed in vineries when the Vines are at rest, and air be admitted on all favourable occasions, so as to keep the structures as cool as possible.

Late Houses.—In some late houses the leaves are not all down, the Vines in such cases not having the wood over-ripened, and that from being started too late and the main of the roots in outside borders. The leaves must be cleared away as they become ripe, and this should be effected without brushing the Grapes or raising dust by sweeping up the fallen leaves. Maintain a temperature of 45°, with a dry atmosphere in houses in which Grapes are hanging. Examine every bunch frequently, and remove all decayed berries. Ventilate the house on fine dry mornings, and keep it closed when the weather is damp, but there must be a gentle warmth in the pipes to prevent a stagnant atmosphere. There is great difficulty in keeping Grapes this year. One grower has lost a whole house of Lady Downe's from a fungus (*Botrytis cinerea*), the Grapes rotting and becoming quite white with the outgrowths of the parasite. This was caused by damp, plants being kept in the house, which so acted on the skin of the Grapes as to make them a fitting nidus for the fungal germs.

In the case of late Grapes ripened comparatively early, and those are the best for keeping, the Grapes may be cut, the ends of the stems being inserted in bottles of rain water secured in an inclining position so as to admit of the fruit hanging clear of the bot. Any dry room will be a suitable place, where an equable temperature of 40° to 45° is maintained. This will admit of the Vines being pruned and the house cleansed, the Vines thus having a few weeks' rest, and with that they start strongly when set to work, as they should be soon after the middle of February.

Cucumbers.—Plants for the early supply of fruit where winter Cucumbers are not grown should now be prepared, sowing the seeds singly in 3-inch pots half filled with soil, so as to leave space for top-dressing as required, plunging the pots in a brisk bottom heat near the glass. Where bottom heat is not at command the pots should be placed on shelves, covered with a pane of glass, and directly the seed leaves appear remove it. The temperature should range from 65° at night to 70° to 75° by day. The thing is to secure sturdy plants and give them plenty of light. Where convenience for raising the plants for planting in frames does not exist seed should be sown in pots placed in a hotbed, but we do not advise that to be done until the end of January or beginning of February.

Melons.—To have ripe fruit late in April or early in May the seed must now be sown. Sow the seeds singly in 3-inch pots, leaving room for top-dressing, the pots being about three-quarters filled with good, rich, moderately light soil pressed down rather firmly, covering each pot with a pane of glass, and when the plants break through the soil remove it. The pots are best placed on shelves about a foot from the glass in a house with a temperature of 65° to 75° by artificial means, it being important that the plants develop sturdy seed leaves just clear of the soil, as there is nothing like a stout base for securing good results. Where plants are grown in frames the end of this or beginning of next month is quite early enough to make a beginning, for which instructions will be given in due course.

PLANT HOUSES.

Chrysanthemums.—Where large blooms of exhibition quality are required provision should be made for the insertion of cuttings, which root well under hand-lights with a few ashes at the base in cool vineries or Peach houses. When rooted under cool conditions there is no fear of checking the young plants afterwards by hardening them, as is the case when they are rooted in warmth. Cuttings 2½ to 3 inches in length should be selected from the base of the plants, and always keep them free from aphides. Where practicable the cuttings ought to be inserted in sandy soil, singly in thumb pots, afterwards giving a thorough watering and keeping the hand-lights close until they are rooted. Those for bushes may be inserted later, and if the plants are grown mainly for yielding flowers for cutting, three cuttings may be inserted round the side of each thumb pot.

Carnation Souvenir de la Malmaison.—Plants that were potted as rooted layers at the end of August or early September into 4-inch pots ought now to be transferred to 6-inch. These must be watered carefully, and arranged in a cool, airy house close to the glass, fumigating if aphides appear. If possible, stand the plants on some moisture-holding material; then, if we have sharp weather, and are compelled to use fire heat, considerably less water will be needed. Plants of Uriah Pike, Mrs. Reynolds Hole, Countess, and others to be forced gently into flower may be potted at once.

Hydrangeas.—Small plants of the varieties of hortensis that were rooted in July, have ripened off their foliage, and show prominent flower buds, may be potted from time to time as opportunity offers. Place the plants in 5-inch pots, leaving only the bud above the surface of the soil. One good crock at the base of the pots for drainage will be ample. Pot firmly and use for a compost good fibrous loam, a little sand, and one-seventh of decayed manure. Little water will be needed after potting, and any cool house will suit them for the present.

Lachenalias.—These are showy plants when in flower, and appear to do well in the same pots for several years. Where this has been the case they should be fed with weak stimulants when they need water. Keep the plants on a shelf close to the glass where the temperature does not fall below 40° at night.

Lilium Harrisii.—The earliest plants may be kept in a temperature of 40° to 45° at night. Care must be taken that they do not suffer by an insufficient supply of water at their roots, and keep the plants as close to the glass as possible. *L. eximium* may now be potted, and if the bulbs are good place them into well drained 6-inch pots. After potting they may be placed in any cool place, covered with cocoa-nut fibre refuse until they root and commence growth. The position should not be too dry or water may be needed, and this ought to be avoided until they are removed from the plunging material.

Kalosanthes.—Plants that are to yield flowers should be kept close to the glass and watered carefully. On no account must they be induced to grow. Give only sufficient water to keep them fresh and plump. The same treatment should be given to plants that were cut back and are to be grown for yielding flowering shoots for another year.

Erica hyemalis.—Plants that have flowered may be cut back, and if stood in an airy house where the temperature does not fall below 40° to 45° they will soon start into growth. If the plants are home-grown and cut back several times, the strong shoots only need be cut back, the smaller ones being left and the old blooms removed. Purchased plants generally do best the second year, as they are often a long time starting the first, and then are not sufficiently ripened to flower well.

Hardwooded Ericas.—These are not grown to any large extent in gardens, and the demand for flowers in a cut state is unquestionably the cause. Where they are grown they must be carefully watered, given abundance of air, and no more fire-heat than necessary. Watch for mildew, and on its appearance dust the plants with flowers of sulphur. Restaking and tying should be attended to. Place the new stakes in the holes from which the old ones have been removed.

Cinerarias.—Plants in small pots from seeds sown late are very useful in the spring; these should be placed into 5-inch pots. Afford a cool airy place close to the glass, so that they will make a dwarf sturdy growth.

GARDENERS' CHARITABLE AND PROVIDENT INSTITUTIONS.

THE GARDENERS' ROYAL BENEVOLENT INSTITUTION.—*Secretary*, Mr. G. J. Ingram, 50, Parliament Street, London, W.C.

UNITED HORTICULTURAL BENEFIT AND PROVIDENT SOCIETY.—*Secretary*, Mr. W. Collins, 9, Martindale Road, Balham, London, S.W.

ROYAL GARDENERS' ORPHAN FUND.—*Secretary*, Mr. A. F. Barron, Royal Horticultural Society's Gardens, Chiswick, London, W.

THE BEE-KEEPER.

BOTTOM VENTILATION OF HIVES.

It is satisfactory to learn from "R. A. C." that he is now convinced that bottom ventilation is necessary for the well-being of his stocks, and it makes little difference whether they have ventilated, or loose solid floor-boards and wide entrances, as other things being equal the result will be the same. I have experimented in this direction for several years past, not with simply one or two colonies but with dozens, and always with the same result. If each colony is headed by a young fertile queen well supplied with stores, plenty of warm, porous covering on the top of frames, the hive being waterproof both at the top and sides, it will come out strong and healthy in the spring.

"R. A. C." mentions a bee-keeper who is a believer in wide entrances, yet each spring his floors are damp, combs mouldy, and he cannot account for the cause. This could soon be explained if the hives were examined, but if the roofs are thoroughly waterproof I am inclined to think the sides of hive are not. I have known floor-boards to be saturated from this cause, which shows the advantage of having all hives of the same size and loose floor-boards, as by keeping a few spare boards on hand the hive can be lifted off its stand and placed on a clean, dry board at any time. This should be done once a year, and spring is the best time for the operation, as after a long winter there is usually an accumulation of debris in the corners, which the bees will not clear away, and should there by chance be any dampness the boards can be dried and used again.

By working on this system I have solid floor-boards that have been in use for at least a dozen years, and to all appearance are as good now as the day they were first made, thus showing they have not decayed from excessive moisture; and where good solid floor-boards are already in use, that it is not necessary to replace them with ventilated floors.

CARBOLIC ACID versus SMOKE.

These are both good when properly managed. The former I use in various ways, and as lately as August 8th, 1895, I recommended its use whilst manipulating bees. I, however, prefer a piece of calico to paper, which should be cut slightly larger than the top of the hive. This will last a long time without being renewed, is better for rolling back off the top of frames, and is not so easily blown away as paper. Care is needed in the use of carbolic acid, for if too strong, and the cloth is left on the top of frames for a few minutes during hot weather, the majority of the bees will leave the interior of hive and cluster on the outside, thus unsettling them for some time afterwards.

The smoker should also be used with care. Cotton cord I find to answer the purpose of fuel, but there is a wrong, as well as a right way, in quieting bees, and only on very rare occasions should smoke be blown in at the entrance of a hive. The roof and covering should be quietly removed, and the quilt rolled off the top of frames, then a puff or two of smoke will drive the bees down; and if the operator is gentle in his movements he may examine the combs without being molested, and the bees will not be seriously disturbed.

Compare this with the nervous bee-keeper, who uses a strong compound as fuel for the smoker, then goes to the hive and blows in sufficient smoke to half stupefy the bees. Then he blames the smoker for all mishaps, whereas the fault lay with the operator.

"R. A. C." does not state whether his first stock of bees really had foul brood, but he cannot be serious in assuming that smoke was the cause of the disease, any more than it was the cause of the bees being shut in the hive without the frames being covered, a judicious use of which would have prevented the bees from filling the hive with a mass of comb from roof to floor, and it would have been the means of saving their lives, even after the space of two years. This is a case where smoke would have been better than carbolic acid.—AN ENGLISH BEE-KEEPER.

ENEMIES OF BEES.

I HAVE read the notes of "An English Bee-keeper" on page 604 with much interest, and do not simply wish to dispute his word about the blue tit, but may I ask if he is not confusing the blue tit for the great tit? I have nothing to complain of from either so far as my bees are concerned. The great tits have been very busy picking up the dead bees cast out of my hives by the bees, the hum of which on Sunday, December 29th, might be compared to a hot day at midsummer instead of Christmas. I have met with some hives when out lecturing on horticulture in South Warwickshire very

badly damaged by woodpeckers and great tits, the former having stocked holes through the fronts of bar-frame hives, and also into skeps large enough to admit these birds, one bee-keeper being obliged to use zinc coverings over skeps to protect them. The question arises, Should such birds be protected, or their eggs, under the Act of 1894? I find my opinion differs with others on some birds, and in one county the tits and woodpeckers are all recommended for protection, whereas I cannot recommend to the Worcestershire County Council some which others recommend in Warwickshire.—J. HIAM, *Astwood Bank*.

WIDE AND NARROW ENTRANCES.

On page 588, December 19th, 1895, "An English Bee-keeper" says, "There appears to be a doubt in the minds of some bee-keepers as to which is the most desirable for the successful wintering of bees." Of course this refers to wide and narrow entrances, and I must confess that I share that doubt. We have been taught for years that wide entrances were a mistake, and those who have followed this teaching have found we were guided aright. I have been a bee-keeper for twenty-six years, commencing when a lad of thirteen, and it has always been my principle to have narrow entrances in winter. My hives, with ventilating floors and the entrance 1 inch wide, are dry and warm. When hives are properly made, and ventilating floors added, damp should be a stranger. I should like to ask "An English Bee-keeper" if the entrance is open right across the hive, will not breeding be retarded? Supposing the entrance is full width, and a cold, piercing wind full into it, would not this reduce to a great extent the temperature of the hive? or with wide entrances could we have breeding going on in the two first months of the year? Bee-keepers should by the first week in September have their stocks fed up for winter on good syrup, made from cane sugar, to last until May. Leave candy feeding alone, it is not natural food for bees. It is laid over the frames, and so causes a draught to pass over the top of them, and in many cases causes damp.—A HOWDENSHERE BEE-KEEPER.

TRADE CATALOGUES RECEIVED.

- Biddles & Co., Loughborough.—*Seeds*.
 E. P. Dixon & Sons, Hull.—*Seed Catalogue*.
 Dobbie & Co., Rothsay, N.B.—*Catalogue and Competitors' Guide*.
 T. Methven & Sons, 15, Princes Street, Edinburgh.—*Garden Seeds*.
 J. Peed & Sons, Roupell Park Nurseries, West Norwood, S.E.—*Vegetable and Flower Seeds*.
 S. F. Richmond, Ossett.—*Chrysanthemums*.
 C. Sharp & Co., Ltd., Sleaford.—*Seed List*.
 Chas. Turner, Royal Nurseries, Slough.—*Catalogue of Seeds*.
 R. Veitch & Son, 54, High Street, Exeter.—*Kitchen Garden and Flower Seeds*.
 B. S. Williams & Sons, Upper Holloway, N.—*Descriptive Seed List*.



- All correspondence should be directed either to "THE EDITOR" or to "THE PUBLISHER." Letters addressed to Dr. Hogg or members of the staff often remain unopened unavoidably. We request that no one will write privately to any of our correspondents, as doing so subjects them to unjustifiable trouble and expense.

Correspondents should not mix up on the same sheet questions relating to Gardening and those on Bee subjects, and should never send more than two or three questions at once. All articles intended for insertion should be written on one side of the paper only. We cannot reply to questions through the post, and we do not undertake to return rejected communications.

Landscape Gardening (*Querist*).—We are not prepared to say which is the "best" work on landscape gardening, and thus imply that all others are inferior. It is a question of taste. We doubt if there is any work that will meet anything like all requirements under varied circumstances.

Rainfall (*Anxious*).—As you imply, the rain is collected in properly set gauges. We have used one of Mr. Symons' for years. It is cheap, and answers well. The rain is collected in an enclosed bottle, and measured by pouring into a tubular-shaped glass, marked to show the

quantity collected. Price and particulars can be obtained from G. J. Symons, Esq., Camden Square, London. An inch of rain is equal to about 101 tons to the acre.

Dwarf Orange Trees for Ornament (*R. W. J.*).—The Otaheite is the variety that is generally sold for the purpose you name, specimens in 7-inch pots being studded with fruit. They are, we think, obtained from the Continent. Seedling Orange trees cannot be relied on for making useful fruiting specimens. Seedling Orange trees raised and well grown this season would be ready for grafting or inarching next year. We cannot advise you about obtaining grafts other than by the purchase of a plant, and then inarching, or bottle grafting might be practised with success.

Chemical Manure for Heavily Cropped Vines (*Baron*).—You do not say what the nature of the soil is. If it does not contain a large percentage of lime use the following:—Bone superphosphate, $4\frac{1}{2}$ parts or lbs.; muriate of potash, one part; sulphate of ammonia, half part; sulphate of magnesia, quarter part. Mix, and apply at the rate of 8 ozs. per square yard before the Vines start into growth, pointing in lightly, repeating when the Grapes are well set and when half to three parts swelled, but only using 4 ozs. per square yard each time, and washing in moderately. If the soil contains a large amount of lime, use nitrate of soda instead of the sulphate of ammonia. The following is a good mixture for Vines and fruit trees generally:—Superphosphate, $3\frac{1}{2}$ parts; muriate of potash, $1\frac{1}{2}$ part; nitrate of soda, $1\frac{1}{2}$ part. Mix, and apply 4 ozs. per square yard when the Vines are started, again when fruit set, also when about half swelled, and when stoned or taking the last swelling, and during colouring.

Caterpillars damaging Violets (*G. J. B.*).—Your plants appear to be infested by no fewer than three species of caterpillars, a proof of the activity produced amongst some groups of insects by the great mildness of the past autumn. One of these, brownish, with obscure markings, is that of the yellow underwing moth (*Tryphaena pronuba*) about half grown; the second, at nearly the same age, dull coloured, with interrupted black markings, is that of the common dart (*Agrotis nigricans*); the third, pale green, faintly striped, is the young caterpillar of the angleshades (*Phlogopora meticulosa*). All would feed at intervals during the winter and become pupae in spring, emerging as moths in May or June. Several methods have been found serviceable for destroying these and similar caterpillars; tobacco water kills them, and paraffin diluted with about twenty parts of water. Soot is effective, when it can be worked in; and also Gishurst compound suitably diluted. A decoction of quassia applied where they are, either kills or prevents their feeding, so that they die of starvation; and a decoction of hellebore made by pouring a gallon of soft boiling water on 2 ozs. of the powder has been found efficacious.

Insects Piercing the Young Growths of Chrysanthemums (*W. W.*).—The insects are male (smallest) and female (largest) of the plant bug (*Phytocoris campestris*), which may or may not pierce the young bud growths of the Chrysanthemum in the summer time, the greatest delinquent being the smaller plant bug (*Anthocoris minutus*), which, as you say, "is difficult to catch in the act, for with the naked eye one cannot get sufficiently close, with their keen observation, but with a glass one can see their piercing tricks." Both belong to the order Heteroptera (*Westwood*), and characterised by four wings, the upper pair the largest, and lapping over each other when at rest, with the part nearest the body leathery and dissimilar, giving it a darker appearance; under wings membranous. Head broad; antennae four-jointed, thread-like; legs rather long and adapted for walking. Larvae resembling the perfect insects, but without rudiments of wings, pupae with still more resemblance, and on these the wings are distinguishable. The larva has a piercer and a mouth adapted for sucking. It probably pierces the base of the buds to extract the juices which in due course would form nectar at the base of the florets, and is sometimes exuded from the bud stems. Various other plant bugs infest Chrysanthemums, the plants sometimes swarming in Kent and Surrey with the Hop bug (*Lygus umbellatarum*) during August and September. Possibly they may "suck" aphids out of existence, but we are not certain on this point, but they come after the ladybirds have betaken themselves, in the beetle state, to delicious fruits, being particularly fond of wasp-eaten wall fruit and Pears. The plant bugs may be destroyed by spraying or syringing with tobacco water and soluble petroleum or other insecticides.

Forcing Kidney Beans (*Abbey*).—Your house is suitable for forcing Kidney Beans; but it is necessary to have them as close to the glass as possible, otherwise they are apt to become drawn and weakly. We prefer boxes to pots, and the former occupy less space, therefore in growing large quantities there is a considerable gain. For varieties we have found Ne Plus Ultra and Osborne's Forcing to be two of the best, giving preference to the former, as it is a heavier cropper. The boxes, which we presume are of ordinary propagating dimensions, and about 6 inches deep, should be nearly filled with good soil, and the seeds dibbled in not too thickly in two rows. The soil should then be watered, and the boxes placed on the hot-water pipes or other warm position. The seeds soon germinate, and when the seedlings are well through remove the boxes closer to the light. At this time it is a good plan to stick small birch twigs round the boxes in order to support the stems as they grow, and also to give a good top-dressing of rich soil in which has been incorporated some thoroughly decomposed manure. The plants must never suffer by want of water, occasional supplies of liquid manure when the pods are swelling being very beneficial. The syringe may be used on bright days, and a moist, genial atmosphere maintained,

but syringing should be dispensed with when the plants are in bloom. Care should be taken to prevent attacks of red spider, this being the result of an insufficiency of moisture. You will be able to get two or three successional crops before the house is required for the Tomatoes. We should not sow sufficient to fill the house at once, but make a sowing now, and in a few weeks' time when the plants are somewhat advanced sow again, following this method so as to keep up a regular supply. The Beans should never be allowed on the plants till they are old, as this taxes the energies of the latter; but rather look them over and gather every day, tie the pods in small bundles, and place the ends in water until required for market. The plants succeed on the ground in very light structures in the spring.

Deutzia crenata flore-pleno (*Tyro*).—This is a very useful plant for forcing, but does not flower so early as *D. gracilis*. Pruning should be done immediately after blooming, and be limited to the removal of those portions that are exhausted by flowering, not necessarily removing the flowering branches entirely, as certain portions of these, which are easily observable, form spurs, which in turn produce clusters of flowers, but at the same time preserve and encourage the young growths. If one or two of these are very strong and likely to grow much longer than the rest, pinch out their points while still young, and they will break and make second growths that will be strong enough for flowering. About a fortnight after flowering and pruning repot if needed, and let the plants have a very light position under glass until the weather permits their being placed in the open air, then plunge in an open sunny position, watering them the same as you do *Chrysanthemums*.

Culture of *Gleichenias* (*F. W. W.*).—They require to be grown in rough peat, torn in pieces with the hand and the finer particles rejected. Brown fibrous peat is the most suitable. Good drainage is necessary, and deep pans will answer quite as well as pots, they not being deep-rooting plants. The plants should be potted when they begin to grow, or early in March, and the soil removed without injuring the roots. To the soil, before potting, add about a sixth of charcoal broken small, and a similar quantity of crystal sand. Work the soil in carefully amongst the roots, keeping the rhizomes well up, and potting moderately firm. Water thoroughly, so as to settle the soil about them, and do not water again until it is necessary, but before the plants are distressed by want of it, then giving a thorough supply. They are best in a light position, with just sufficient shade in very bright weather to prevent scorching, and should have a rather free amount of air, as they do not flourish in the close moist atmosphere of ordinary ferneries. A moderate amount of moisture only is necessary, and water should be sprinkled on the fronds. They require a temperature of 45° to 50° in winter, and 55° to 65° in spring by artificial means, and 10° to 15° rise from sun heat. The summer temperature will range 60° to 65° at night, and proportionately higher in the daytime. The chief things are an open free soil, free ventilation, and not too much water either at the roots or in the atmosphere.

Names of Fruits.—*Notice.*—We have pleasure in naming good typical fruits (when the names are discoverable) for the convenience of regular subscribers, who are the growers of such fruit, and not collectors of specimens from non-subscribers. This latter procedure is wholly irregular, and we trust that none of our readers will allow themselves to be made the mediums in infringing our rules. Special attention is directed to the following decision, the object of which is to discourage the growth of inferior and promote the culture of superior varieties. In consequence of the large number of worthless Apples and Pears sent to this office to be named, it has been decided to name only specimens and varieties of approved merit, and to reject the inferior, which are not worth sending or growing. The names and addresses of senders of fruit or flowers to be named must in all cases be enclosed with the specimens, whether letters referring to the fruit are sent by post or not. The names are not necessarily required for publication, initials sufficing for that. Only six specimens can be named at once, and any beyond that number cannot be preserved. They should be sent on the first indication of change towards ripening. *Dessert Pears cannot be named in a hard green state.* (*W. S.*).—1, Winter Quoining; 2, Annie Elizabeth; 3, not known, probably local; 4, Wheeler's Russet; 5, grown as Aromatic Russet in some districts, but not the Aromatic Russet of the "Fruit Manual"; 6, Wormsley Pippin. (*D. S.*).—1, Golden Reinette; 2, Queen Caroline; 3, Bess Pool; 4, Gloucestershire Costard. (*W. J.*).—Waltham Abbey Seedling. (*O. M. A.*).—2, possibly a small Cellini; 4, possibly a local variety with no recognised name.

Names of Plants.—We only undertake to name species of plants, not varieties that have originated from seeds and termed florists' flowers. Flowering specimens are necessary of flowering plants, and Fern fronds should bear spores. Specimens should arrive in a fresh state in firm boxes. Slightly damp moss, soft green grass, or leaves form the best packing, dry wool the worst. Not more than six specimens can be named at once, and the numbers should be visible without untying the ligatures, it being often difficult to separate them when the paper is damp. (*W. C.*)—The specimen is of *Diplopappus chrysophyllus*, a plant belonging to the natural order Compositae. (*W. N.*).—1, *Neprolepis exaltata*; 2, *Pteris argyrea*; 3, *Pteris cretica albo lineata*; 4, *P. longifolia*; 5, *Cheiranthus elegans*; 6, *Adiantum pedatum*. (*T. W.*).—1, *Retinospora ericoides*; 2, possibly a *Lygodium*, but no spores; 3, *Neprolepis davallioides furcans*; 4, *Hedyebium Gardnerianum*; 5, *Pteris serrulata*. (*A. B.*).—*Cupressus torulosa*. (*Hetty*).—*Laelia autumnalis*. (*H. B.*).—1, *Cypripedium insigne*, good form; 2, *Cattleya Walkeriana*. (*O. M. A.*)—6, uncertain, no spores; 8, *Polystichum aculeatum*; 2, *Pteris longifolia*.

COVENT GARDEN MARKET.—DECEMBER 30TH.

THE Market quiet after Christmas holidays, with supplies shortening.

FRUIT.

	s. d.	s. d.		s. d.	s. d.
Apples, per bushel	2	0 to 3	6	Lemons, case	11 0 to 14 0
" Nova Scotia, per	13	0	17 0	Pears, Californian, per case	13 0 14 0
barrel	1	0	2 0	Plums, per half sieve	0 0 0 0
Grapes, per lb.	1	0	2 0	St. Michael Pines, each ..	2 0 7 6

VEGETABLES.

	s. d.	s. d.		s. d.	s. d.
Beans, per lb.	0	4 to 0	6	Mustard and Oress, punnet	0 2 to 0 0
Beet, Red, dozen	1	0	0 0	Onions, bushel	3 6 4 0
Carrots, bunch	0	3	0 4	Parsley, dozen bunches ..	2 0 3 0
Cauliflowers, dozen	2	0	3 0	Parsnips, dozen	1 0 0 0
Celery, bundle	1	0	0 0	Potatoes, per cwt.	2 0 4 0
Coleworts, dozen bunches	2	0	4 0	Salsafy, bundle	1 0 1 6
Cucumbers, dozen	4	0	9 0	Seakale, per basket	1 6 1 9
Endive, dozen	1	3	1 6	Scorzonera, bundle	1 6 0 0
Herbs, bunch	0	3	0 0	Shallots, per lb.	0 3 0 0
Leeks, bunch	0	2	0 0	Spinach, bushel	2 0 2 3
Lettuce, dozen	1	3	0 0	Sprouts, half siv.	2 6 0 0
Mushrooms, punnet	1	0	1 6	Tomatoes, per lb.	0 3 0 6
				Turnips, bunch	0 3 0 0

PLANTS IN POTS.

	s. d.	s. d.		s. d.	s. d.
Arbor Vitæ (golden) dozen	6	0 to 12	0	Ferns (small) per hundred	4 0 to 6 0
Aspidistra, dozen	18	0	36 0	Ficus elastica, each	1 0 7 0
Aspidistra, specimen plant	5	0	10 6	Foliage plants, var. each	2 0 10 0
Obrysanthemums, per doz	6	0	18 0	Lycopodiums, dozen	3 0 4 0
Dracæna, various, dozen ..	12	0	30 0	Marguerite Daisy, dozen ..	6 0 9 0
Dracæna viridis, dozen ..	9	0	18 0	Myrtles, dozen	6 0 9 0
Ericas, various, per dozen	9	0	24 0	Narciss (French) doz. bchs.	2 6 4 0
Euonymus, var., dozen ..	6	0	18 0	Palms, in var., each	1 0 15 0
Evergreens, in var., dozen	6	0	24 0	" (specimens)	2 1 0 35 0
Ferns in variety, dozen ..	4	0	18 0	Solanums, per dozen	8 0 12 0

AVERAGE WHOLESALE PRICES.—OUT FLOWERS.—Orchid Blooms in variety.

	s. d.	s. d.		s. d.	s. d.
Acacia or Mimosa (French)	1	0 to 2	0	Pelargoniums, 12 bunches	4 0 to 9 0
per bunch	3	0	5 0	Primula (double), dozen	
Arum Lilies, 12 blooms ..	2	0	4 0	sprays	0 6 1 0
Asparagus Fern, per bunch	0	6	1 0	Roses (indoor), dozen ..	1 0 2 0
Bouvardias, bunch	1	0	3 0	" Tea, white, dozen ..	1 6 2 6
Carnations, 12 blooms ..	1	0	3 0	" Yellow, dozen (Niels)	3 0 6 0
Obrysanthemum, doz. blms.	1	0	4 0	" Red, dozen blooms ..	1 0 1 6
doz. bunches	3	0	6 0	" Safrano (English),	
Eucharis, dozen	3	0	4 0	dozen	1 6 3 0
Gardenias, dozen	2	0	4 0	" Safrano (French), per	
Geranium, scarlet, doz.	4	0	9 0	dozen	1 3 2 0
bunches	0	6	1 0	" Piuk (French), per	
Hyacinth (Roman) dozen	5	0	5 6	dozen	3 0 4 0
sprays	2	0	4 0	Smilax, per bunch	5 0 0 0
Lilac (French) per bunch	4	0	8 0	Stephanotis, dozen sprays	6 0 9 0
Lilium lancifolium, twelve	2	0	4 0	Tuberose, 12 blooms ..	0 4 0 6
blossoms	4	0	8 0	Violets Parme (French),	
" longifolium, 12 blooms	1	0	2 6	per bunch	4 6 0 0
Lily of the Valley, dozen	4	0	6 0	" Czar (French), per	
sprays	2	6	4 0	bunch	2 0 3 0
Maidenhair Fern, doz. bchs.	2	6	4 0	" Victoria (French),	
Marguerites, 12 bunches ..	1	6	12 0	12 bunches	2 6 0 0
Orchids, various, dozen				English, 12 bunches	2 6 0 0
blossoms					



PROFITABLE FARMING.

Of all good resolutions for the New Year not one is more reasonable than that our most strenuous efforts shall be put forth to render the results of our own practice a realisation of our title to-day; and in wishing our readers a Happy New Year, most cordially do we invite them to join us in this resolution. We say it is reasonable, because we know it to be possible, if only our scheme or plan for the year is adapted to the times, is tentative, elastic, resourceful, progressive. This, of course, implies some change; whether that change must be great or little depends so much on circumstances, both local and general, that each farm must be treated on its merits, or, rather, according to its special requirements of soil and situation. It implies much more. As we write we cannot ignore the sad fact that some worthy farmers are so crippled in means that they are only just holding on near the verge of bankruptcy. To them any radical change is impossible; it is only those farmers having a holding well within the scope of their means who can compete with the times, and so adapt their practice to modern requirements as to carry out our resolution.

To all such good men and [true] we say now, Look back, look

forward. First, pass the farming situation carefully in review; then take your own farm; see how it has answered in the old year, consider well if you can do better in the new year. What of your crops and stock? Is your land turned to the best account? Are the whole of your crops profitable? Is your live stock suitable for the land? Are your flocks and herds well proportioned; and are the animals good enough for your purpose?

Taking these for our basis in the inquiry, let us turn first to the arable land as involving the greater outlay, and see if it affords us a proportionate profit. If the farm is within carting distance of a large town there ought now to be a considerable acreage of such crops as Winter Tares, Italian Rye Grass, Rye, mixed seeds, and Clover. An ordinary crop of either is worth at least a shilling a rod, or £8 an acre, as green fodder. An extraordinary crop may be worth much more, and there will be two, three, or four successional crops of some of them, everyone of which may be big crops if only soil fertility is well sustained. Let us insist on it, in passing, that every farmer in full practice ought to be a past master in the art of keeping his land sufficiently rich in fertility for the full sustenance of his crops.

Then, too, in such a situation we should certainly make ourselves thoroughly acquainted with possibilities in connection with fruit and vegetable culture. By this we by no means point to turning the farm into a market garden, but rather to a few acres of Strawberries, bush fruits, Rhubarb, Asparagus, Potatoes, and other root crops. Travelling recently from Sheffield by rail on the evening of a market day, we were much interested in a keen discussion for and against the sale of Swede Turnips. One farmer insisted that with his big crop of from 45 to 50 tons an acre, he "couldn't do better than sell it at ten shillin' a ton," while another would "hear nowt of such talk," he had twenty-six stirks beside other stock, and had always found it best to 'feed' his roots on the farm. It is altogether a relative matter. We have in mind, as we write, three or four farms some five miles from a large and growing town, with soil that is deep, yet so light and porous, that a two-share plough is easily worked and heavy rain appears to have no retarding influence on tillage. The golden opportunity here which soil and situation affords for the cultivation of special crops for town consumption is practically lost, the town trade being limited to Mangolds, which must be very profitable, as we have repeatedly heard of £1 per ton being given there for them.

Of corn crops Barley, where a good malting sample can be had, still answers, but Barley is much too fickle a crop ever to become a farmer's sheet-anchor. Wheat, in the best mixed soil, where the straw can be sold, may be sown, but no sensible man can now place dependence on Wheat as an ordinary crop. Well grown Oats are undoubtedly the most profitable and the most useful corn crop, both for sale and for home use. Well may every farmer inquire if he has turned Oats to full account, first of all in giving this crop the benefit of high cultivation, taking as his standard a yield of at least 80 bushels per acre, and then in turning both corn and straw to stock feeding as largely as he ought to do. It is assuredly the wants of our live stock that should now influence our decision about corn growing much more than the corn averages of our markets, a self-supporting farm as nearly as possible being the end and aim of our New Year's resolution.

(To be continued.)

WORK ON THE HOME FARM.

We are now using silage from a silo that has been in use for about eleven years. Though we have found stack ensilage answer well, we always fill the silo, because there is no waste whatever, no spoiled fodder; every bit of it is sweet and wholesome, is eaten eagerly by all the sheep and cattle, and, being under cover near the yards, is accessible in all weathers. Originally we used to cut out the silage in sections from top to bottom, only withdrawing the weights from the section in cut; but

finding the silage did not spoil when the pressure was taken off, we now have all the weights removed, using the silage over the entire silo from the top downwards. We regard this extra supply of wholesome, nutritious fodder at midwinter as invaluable; while it lasts we use no hay except for the dairy cows, the silage and chaffed straw answering well for all the other cattle, sheep, and horses.

With the Christmas cattle off our hands we have looked closely into our store of corn, fodder, and roots, and find we have an ample supply even if we do have a late spring. This was all the more necessary because the finishing of cattle for a Christmas market often makes serious inroads into the winter stores of a farm, and we regard it as simply ruinous to purchase food for store cattle in the winter, or in fact at any time. The matter is worthy of attention now in view of future contingencies. Often in autumn does the question arise, Is it best to sell cattle—say about mid-October—that are not quite ripe for the butcher, or to tie them up to fatten for a Christmas sale? If the tying up implies a heavy cake bill we would avoid it by selling at some little loss rather than run the risk of a greater; but if there is plenty of home-grown corn to spare for the bullocks it may answer.

Bearing this in mind now, we are having store cattle kept well up in condition in the yards, so as to turn them out to grass next spring sufficiently forward to finish them on the pasture. We are convinced that this is the more profitable way, and we call attention to it now when store beasts are so often neglected. Keep them going well, say we, if you would have them profitable.

OUR LETTER BOX.

Chemical Manure for Oats (J. H.)—For your winter Oats, which have had no manure, apply per acre the last week in February 1 cwt. nitrate of soda, 2 cwt. mineral superphosphate, quarter cwt. steamed bone flour.

METEOROLOGICAL OBSERVATIONS.

CAMDEN SQUARE, LONDON.

Lat. 51° 32' 40" N.; Long. 0° 8' 0" W.; Altitude 111 feet

DATE.		9 A.M.					IN THE DAY.				Rain.
1895 December.		Barometer at 32°, and Sea Level.	Hygrometer.		Direc- tion of Wind.	Temp. of soil at 1 foot.	Shade Tem- perature.		Radiation Temperatur-		
			Dry.	Wet.			Max.	Min.	In Sun.	On Grass	
		Inchs.	deg.	deg.		deg.	deg.	deg.	deg.	Inchs.	
Sunday	.. 15	29.264	50.3	48.4	S.W.	41.2	50.4	34.5	53.9	30.3	0.053
Monday	.. 16	29.131	41.4	40.6	S.E.	40.9	44.7	35.7	50.4	30.7	0.268
Tuesday	.. 17	29.543	41.9	40.6	S.E.	41.1	44.2	41.0	49.0	36.2	—
Wednesday	18	29.738	39.3	38.0	N.E.	41.1	42.2	37.9	46.1	33.3	0.030
Thursday	.. 19	29.867	36.7	35.1	N.E.	41.0	38.7	35.4	41.4	35.3	—
Friday	.. 20	29.984	36.1	35.2	N.	40.1	39.8	31.4	45.1	30.1	—
Saturday	.. 21	29.953	30.4	29.9	N.	39.9	34.4	29.6	38.3	26.1	—
		29.640	39.4	38.3		40.8	42.1	35.5	46.3	31.7	0.351

REMARKS.

15th.—Rain from 3 A.M. to 7 A.M., and overcast till 11 A.M.; generally sunny after, and clear evening.
16th.—Occasional gleams of sun and slight showers; steady rain at 4 A.M., and from 11 A.M. to 1 P.M.
17th.—Rain till 3 A.M.; overcast all day.
18th.—Dull early; rain at 10 A.M.; overcast day.
19th.—Overcast early; fair day.
20th.—Fair, but sunless.
21st.—Overcast and cooler; fog in evening.
A very ordinary December week, not much daily range of temperature, and rather less than the average rainfall.—G. J. SYMONS.

DATE.	9 A.M.					IN THE DAY.				Rain.
1895. December.	Barometer at 32°, and Sea Level.	Hygrometer.		Direc- tion of wind.	Temp. of soil at 1 foot.	Shade Tem- perature.		Radiation Temperature		
		Dry.	Wet.			Max.	Min.	In Sun.	On Grass.	
	Inchs.	deg.	deg.		deg.	deg.	deg.	deg.	deg.	Inchs.
Sunday.... 22	29.857	28.4	28.4	N.E.	38.8	37.3	26.1	38.2	26.0	—
Monday .. 23	29.773	34.2	33.0	E.	38.0	39.4	28.0	50.4	27.2	—
Tuesday .. 24	29.489	38.7	37.6	N.E.	38.2	39.2	34.3	41.3	29.0	0.316
Wednesday 25	29.641	33.4	33.0	N.E.	38.5	34.2	33.0	35.0	31.9	—
Thursday.. 26	29.870	32.9	32.3	N.E.	38.0	36.9	31.4	36.9	31.2	0.090
Friday 27	30.246	35.9	35.3	N.	37.9	37.0	32.8	39.9	31.9	—
Saturday .. 28	30.383	32.7	32.6	N.E.	37.8	47.2	32.0	48.2	31.0	0.188
	29.894	33.7	33.2		38.2	38.7	31.1	41.4	29.7	0.594

REMARKS.

22nd.—Fair, but sunless.
23rd.—Sunny, but not very clear.
24th.—Dull and rainy almost throughout.
25th.—Rain or sleet till 9 A.M.; dull and damp day.
26th.—Slight wet snow or drizzle almost all day.
27th.—Dull and damp morning; colder and drier after.
28th.—Dull early; foggy morning; rain from 2.30 P.M.
A cold, damp, uncomfortable week.—G. J. SYMONS.

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ROYAL EXOTIC NURSERY,

CHELSEA, LONDON, S.W.

**Journal of Horticulture.**

THURSDAY, JANUARY 9, 1896.

CAULIFLOWERS.

THE newer method of producing the first crop of Cauliflowers from plants raised early in the year has not as yet been universally adopted, and no doubt those who cling to the well tried way of sowing in the autumn for an early supply have a long chapter of successes to show for the reasonableness of their procedure. At the same time, with the improved varieties that have lately been placed within the reach of gardeners, it is, I think, impossible to overlook the great adaptability these possess of coming on quickly. I find I can cut very much sooner by growing an early variety sown in the spring. There always have been some trouble and pains required to secure good early Cauliflowers, and even with improved sorts I imagine the labour involved is not greatly lessened.

For many years the variety I depended on for an early supply was Dwarf Erfurt, but this has been superseded by Veitch's Early Forcing. I have cut heads of this off a west border in the end of May, and have continued cutting from the same sowing all through June. This variety has the invaluable property of producing, in addition to a central head, three to four others that are ready to cut a week to a fortnight after the former. I am acquainted with no other that possesses the like habit of second heading, and in this respect alone, if for no other, the variety is worth attention.

For the earliest crop, I sow in the second or third week of January, employing for the purpose ordinary cutting boxes filled with friable soil. The seeds are germinated in a warm house, but directly the first leaves are produced the plants are removed to a cool house, where they move along slowly, but without any risk of damping at the neck, a danger that is always present when they are kept in a warm structure. In due time the seedlings are transferred to other boxes, from whence after a time as many as are wanted for the earliest crop are placed singly in 3-inch pots. One has to be careful that the plants are in no way excited into soft growth. They require a good compost, but by keeping them always cool, and with carefulness in watering, they make firm and sound growth that practically secures immunity from "buttoning."

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Telegraphic Address—"PURITY, MANCHESTER."

I have not space on a south border for Cauliflowers, hence one with an exposure to the west has to be prepared, and no doubt because of this some days are lost in the matter of earliness. They require a soil that has been liberally manured, and the need for high cultivation is even more marked in the case of summer varieties than in that of the stronger growing autumn kinds. In preparing the ground, therefore, a heavy dressing of sound manure is a first necessity. It does not require to be dug in deeply, for the plants receive the greatest benefit when the manure is incorporated throughout the top spit. By digging the ground a second time the manure is intimately mixed with the soil, and quite fit for the plants. If the soil is tolerably dry at the time the last digging takes place, a practice to be commended is that of firming the ground by treading it moderately, but should the soil be at all wet this may be left over till after the plants have become established. The plants are ready for setting out towards the end of March, but up till the middle of April will be found perfectly suitable, and it is better to wait for good weather, even if it should appear a little late.

A not unimportant matter is the protection of the young plants for awhile after planting. I cover each with an inverted flower pot and allow it to remain night and day for a week. After that the plants are covered during the night only, or on any exceptionally cold stormy day in late spring. When the plants have obtained a good grip of the soil a little sulphate of ammonia is sprinkled round each on the surface of the ground. The effect of this is speedily seen in the rapid growth made by the plants early in May. An occasional supply of water as needed must be provided, the surface of the ground should be loosened by the Dutch hoe, and as the plants progress a little soil drawn to the neck of each is distinctly advantageous. When the plants are fully grown it may occur that in hot sunshine the foliage will flag and droop. This may arise either from dryness at root or from the attacks of maggots, or because the soil is somewhat loose. If from the last cause, then the soil must be well firmed round each plant; this proceeding also somewhat lessens the mischief produced by maggots, and it also to some extent does away with the need of much watering.

In cutting the crop it is well to be careful not to do this too soon. The variety under discussion never produces large heads, but by allowing them time to grow they are such as cannot be called small. It is a profitable system to examine the crop every second day, when those that are considered sufficiently large are cut, each with a leaf in which to enclose the "flower," and those that are showing the white are at the same time protected from the light by means of a large leaf pressed over each. Exactly the same method is pursued in the case of the secondary heads, which form at the base of the central one. They appear very small at first, but in the course of a few days develop and become useful. The cut heads keep well for a few days if laid out in a perfectly cool room or cellar.

The plants to succeed these are sown at the same time, but treated differently. Early Erfurt and Pearl are reliable varieties. Instead of potting the seedlings and growing them in a cool structure they are transplanted into a prepared bed in a cold frame, in which progress is necessarily slower. In selecting the material for the bed attention must be paid to the fact that Cauliflowers do not as a rule transplant with good balls, therefore a compost that will cause a network of roots is of importance. Such will be secured by selecting loam as sound as possible, and to two parts of that add one of old Mushroom bed refuse. Place on this a layer 4 inches in depth on a hard bottom, and set out the seedlings 3 inches apart each way. The sashes may be kept closed for some time, but when the weather becomes warm in the daytime then allow the plants all the ventilation possible. The soil being well firmed it will require but little water; and even when watering cannot be delayed it must not be overdone. It is possible, by attention to this operation, to induce the production of

a great number of roots towards the surface and few towards the bottom of the bed, and this condition is exactly what is required to secure plants that will move with the least possible check. When the plants grow too slowly I have found a slight dressing of a quick acting manure cause at once the desired progress to take place.

Nothing is gained by transplanting too early. A weakly plant will become a strong one sooner if left in its protected frame, and it will become established none the less certainly and rapidly on account of a little delay. The same preparation of the soil is required for this and succeeding crops as has already been pointed out, in the case of the early one. A quick vigorous growth is to be always aimed at for Cauliflowers, hence a well-worked, richly manured soil is indispensable. The best manure is undoubtedly a mixture of horse droppings and cow manure that has been laid in a heap for a fortnight or three weeks, turned once or twice during that time, and, when well "sweetened," wheeled on to the ground and at once dug in. This crop, like the earliest, should also be protected, and this may be done either by means of evergreen shoots or flower pots.

Later crops are secured from plants sown in the open. About the middle of March seeds of Magnum Bonum, King, and Autumn Giant are sown, followed, three or four weeks later, with other sowings of the same varieties. I have also, on account of the losses suffered from maggot attacks on plants of the March sowing, occasionally sown seeds where the plants were left to grow, and this has proved fairly effective as a preventive. It has, moreover, had an effect on the plants that was not thought of when the first experiment was made, which is that sown at the same time those untransplanted are ready to use first. The method of procedure is to sow three to five seeds at each station set apart for a plant, and when the seedlings are well up, the weaker are drawn out and the strongest left to grow. There need be no loss of ground in carrying out this plan, for between the rows other quick growing crops such as Radishes, Spinach, and Lettuces are grown, and even sowings of other Cauliflowers, Cabbages, and Broccoli, all of course to be transplanted when ready.

It may be added that the earliest plants are set at 21 inches apart, others at 2 feet by 21 inches, and Autumn Giant at 3 feet by 2.—B.

WHEN FLOWERS ARE VALUABLE.

If asked to state when flowers are in most demand and fetch the best prices, I would unhesitatingly decide in favour of the whole of the month of January. What about the latter part of December? some will ask. Well, that too is a busy time, and more flowers are cut for the Christmas festivities than for any other short period in the year; but, then, immense quantities are grown for that particular demand. So abundant are such Chrysanthemums as W. H. Lincoln, yellow; L. Canning, Lady Lawrence, and Princess Blanche, white, that it is doubtful if the prices will not prove disappointingly low to the growers. It is during the early part of January, or through the month in fact, when most parties are given, and flowers are in great demand, and then it is the turn for the grower to get good prices. The experienced ones among them contrive to have the four Chrysanthemums named, and with them Princess Victoria and Golden Gem, much later than Christmas, the buds of the first-mentioned not being "taken" till the first or second week in October, or some time after housing. In December buyers must have large blooms and plenty for their money; during January they will have what they can get, and pay a good price whether they like it or not. Market growers not yet experienced in the matter will do well to make a note of the foregoing.

Chrysanthemums are by no means the only flowers available in January. Semi-double Zonal Pelargoniums, notably the rich scarlet Raspail, are also in good demand then, this colour proving among the best for table decoration. It is the well-grown young plants that give the best results, and those who depend on either old plants or young ones in a low temperature will not make them pay. Nor ought the cultivation to be confined to market gardens, but in every garden where proper facilities are available at least one light dry staging in a heated house should be devoted to semi-double Zonal Pelargoniums. Give them a light position, avoid

crowding, keep the house dry, have the hot-water pipes comfortably warm, or the temperature at from 55° to 60°, and give a little top air on warm days. If the plants present a somewhat starved appearance give weak liquid manure occasionally.

Those who do not work their double Primulas hard early in the winter find them very serviceable in January. Single pips, notably of that fine double white variety A. F. Barron, are useful for buttonholes, and the flowers of the older ones are frequently used similarly, while the spikes or elongated trusses are good for vases. It must be a good plant, though, that produces flowers to the value of 1s. Well-flowered plants in 5-inch pots will frequently fetch 9s. per dozen, so that, all things considered, this is a class of flowers of which market growers should work up a stock. Shelves that suit them during the autumn and early part of the winter answer well for moderately early Strawberries in pots. Indian Azaleas, notably the popular Deutche Perle, must be grown in quantity where white flowers for wreaths, crosses, and such like are constantly in demand, this variety giving quite a long succession of bloom from a single plant without being forced, but sent to the markets in a cut state they fetch next to nothing. What a pity it is so few private gardeners and such a comparatively few market growers can grow *Cyclamen persicum* successfully. Strong young plants are capable of flowering freely from November to February inclusive, when they may be sold, after having already paid their way. Good blooms, especially if whites predominate, fetch 4d. per dozen, and this accounts for the sale of the plants not being pushed early in the season.

Carnations and Tea Roses are always appreciated, and are particularly valuable during January; 1s. 6d. per dozen is freely given for medium-sized blooms of the best perpetual flowering varieties, so those who can grow them well must find Carnations very profitable. Miss Jolliffe is the favourite with ladies, but Mrs. Moore, white, Winter Cheer, scarlet, Uriah Pike, crimson, and Germania, yellow, all sell readily. Anybody ought to succeed with the free-flowering Marguerite strains, a trade packet of seeds giving hundreds of plants that will flower the same season they are raised, and give large numbers of double-fringed sweetly scented blooms during January and the next two months. Neither these nor any other types will succeed well in mixed plant houses, or the green-houses to be found in most private gardens. What they want is to be by themselves on light stages, or raised up to near the glass in houses facing the south. The low span-roofed houses of the description erected by market growers suit them well. Tea Roses require more heat and are seldom plentiful early in the year. If forced hard they are apt to become weakly and red spider infested, and the high prices sometimes obtained for buds in January scarcely pay for the risks run.

Bulbous-rooted plants, it need hardly be pointed out, are very extensively forced by market growers as well as private gardeners, and early in the year do good service. Roman Hyacinths have, perforce, to be grown, and can easily be had in flower during December and January; but let me warn those inexperienced against investing heavily in that direction. Paper White Narcissi pay better, but not if it is in competition with French-grown flowers, as they have to do in large towns. Tulips are very cheap, but not many of these can be had in flower early in the year; and Spanish Irises will not stand hard forcing, otherwise they would be most profitable. Lily of the Valley, if the Berlin crowns are obtained, will force readily, the cheaper Dutch crowns flowering satisfactorily in February, or rather earlier. If there are many failures, and the price is 1s. and less per dozen for what are obtained, the profits are small.—MARKET GROWER.



CALANTHE GIGAS.

IN supposing that there is no Orchid of this name, our correspondent, who signs himself "Young Orchidist," is wrong, and we have pleasure in giving an illustration (fig. 4) that will tell him and others what it is like. Emanating from Messrs. J. Veitch and Sons' establishment, this hybrid was on its introduction hailed as an acquisition by all who saw it, and received a first-class certificate from the Orchid Committee of the Royal Horticultural Society. It was the result of a cross between *C. Sanderiana gigantea* and *C. vestita grandiflora*. It is bold, vigorous, and effective, the stout spike containing numerous handsome flowers, the sepals and petals of which are ivory white, and the lip rich rose.

LÆLIA SUPERBIENS.

THE flowering season of this fine species has again come round, and the spikes this year are exceptionally fine. To grow this species properly a large spacious house is required, one in which the temperature and other atmospheric conditions are steady and not fluctuating, this point being of great importance not only to small-



FIG. 4.—CALANTHE GIGAS.

growing Orchids, but also to Cattleyas and Lælias of the grosser growing kinds.

L. superbiens is not a difficult plant to cultivate, but well furnished specimens with a good number of leading pseudo-bulbs are the exception, not the rule. To a certain extent this is a defect of the species, but a good deal may be done to divert the flow of the sap by notching the rhizome just behind the second pseudo-bulb. Though not effectual in every case, it is so more often than not, is so little trouble, and cannot injure strong plants, in any case the experiment is worth trying. The notch should go quite half way through the rhizome, but not much more, and the best time for the operation is in autumn or early spring, the former for preference. Much care should be taken in mixing the compost, for large pieces of this Orchid do not require frequent repotting provided the work is well done in the first instance. Plenty of good rough lumps of potters' ballast are preferable to sharp-edged crocks for mixing with the peat and sphagnum, which should each be of the best quality obtainable, the former being shaken free of all sand and earthy particles.

If the plants are newly imported, and are being potted for the first time, it will be difficult to bring them into a convenient shape for potting, and they should be tried in the pots before commencing with the drainage. The lower end of the rhizome will most likely be some distance below the surface, but this does not

matter, as the eyes at the bases of the old pseudo-bulbs would probably never break. When the plant is at the right height, so that the last-made growths just sit on the compost when finished, fill up to within a couple of inches of the rim with large crocks, but place these firmly enough not to rock about when the plants are being moved. Cover every part with a layer quite half an inch thick with the rougher parts of the sphagnum moss, and then having the compost ready beforehand, fill up to the required level, using abundance of rough burnt clay.

There is no need of much trimming off with large plants of this description, as the compost may be laid evenly enough with a blunt dibbler. This is all of so light and porous a nature that it allows of annual top-dressings for an almost unlimited period, until the plants grow out of their pots as a matter of fact. *L. superbiens* commences to grow very early in the season if kept in a full *Cattleya* temperature, so that no resting season, as usually understood, is needed. It requires most water in the autumn, when more sustenance than can be afforded by the old bulbs is needed.

At this time, if the plants are potted on the above lines, daily soakings are necessary, the additional sunlight required drying the compost very quickly. The spikes are then forming, and a wise precaution of Nature against insects may be noticed in the exudation of a singular glucose matter at the base of the leading pseudo-bulbs that no insect can pass to get at the tender young spikes. As the latter harden and become more woody this gradually dries up, often with small insects and the legs of larger ones firmly adhering to it. The spikes take a long time to come to perfection, and each one carries from ten to twenty large flowers, the best forms being upwards of 6 inches across.

The sepals and petals are of a pretty shade of rose, and the lip is similar in ground colour with a suffusion of a deeper hue and several stripes of rich yellow leading to the throat. The long naked stem to a certain extent detracts from the beauty of this plant, but this is, of course, not so noticeable when grouped with other Orchids. From this circumstance the natives of Guatemala and the locality call it the Wand of St. Joseph, and we are told by its discoverer, Mr. G. Ure Skinner, that the flower stems in a state of nature attain a length of 4 yards, a considerable advance on anything ever seen under cultivation, and perhaps not altogether a recommendation.—H. R. R.

LÆLIA ANCEPS.

THIS beautiful Orchid, so rich in variety of colour, is one of the very best for the Christmas season. The firmness and lasting quality of its flowers, their moderate size and delicate texture, make this one of the most valuable of winter-flowering plants. The colour ranges widely from pure white in the rarer and more expensive varieties to flesh colour, rosy purple, pale purple, rose and lilac, with more or less deeply coloured crimson purple, deep purple or maroon in the lip. The plants succeed well in cool and airy positions during summer, their growing season. They do well on blocks of wood or in baskets, the former mode being preferable, as the plants take no nutriment except from air and water. Well-diluted manure water once a week is excellent for this as well as for most *Lælias* and *Cattleyas*. The large growers nowadays use very little fibrous peat and moss, if any at all, as it is not essential; it is rather an obstacle to the free development of the numerous long and fleshy aerial roots.—N. F. R. (in "Garden and Forest.")

KENTISH NUTS.

COBS AND FILBERTS GREEN AND STORED.

THIS is a very important trade so far as it affects the grower, and a few words may be useful from a salesman's point of view.

I have no means of gauging the general crop from year to year. It is very uncertain. The last three years' crops have been abnormal. Such a fact as three years consecutively being above the average is extraordinary. Beginning with 1893, 140 tons passed through our hands; in 1894, 120 tons, and this year we reckon there will be about 70, as against an average of 50.

I have for years been instilling into the minds of growers that the taste for stored Nuts has passed away—gone with the port wine drinkers. The public now go in for the green fruit, and what is the result?

1, The crop is extended over five months instead of three, thereby increasing the demand. We have August, September, October, November, and December, instead of the last three months as formerly.

2, The weight comes down heavier. Green Nuts by storing lose one-seventh of their weight—14 lbs. in every 100.

3, The value is increased by these two means. I find by my books that in 1893 (the heaviest year) a ton of Nuts, worth

£27 10s. to £30 green, realised only £35 when stored. In 1894 there was absolutely no difference from beginning to end of the season, the price kept very regular, but the grower threw away his weight and lost the equivalent of value. In 1895 the price in December was less than in the early months. These results have been gained by three-quarters of the crop being marketed green. What would have been the result to growers if sent the old way—viz., stored? To every ton of Nuts sold the last two months of the season we should have had nearly 3½ tons on the market. I leave you to judge the result to the grower. I think I have shown that the results for the past three years prove that the demand for stored Nuts is gradually falling away.—JAMES WEBBER (read at the Horticultural Club).

EPACRIS CULTURE.

AT a time when the rich feast of the Queen of Autumn flowers has passed its meridian a good deal of forethought is necessary to keep a sufficient quantity of other plants advancing into flower in order to prevent a galaxy of floral splendour being followed by a dearth of flowers. If the convenience at command is commensurate with the requirements of the establishment, with good management the end in view can invariably be attained, but unfortunately these two vital matters—supply and demand—are often altogether disproportionate to each other. It seems to me that the great craze for novelties in plant life is gradually pushing out of our gardens many sterling old plants which ought to be largely grown, especially in those instances where the unfavourable circumstances above indicated are the order of the day. For flowering at Christmas time and during succeeding months, what class of plants can be more useful and beautiful than the various species and varieties of *Epacris*? For use as pot plants and for supplying cut flowers, we must describe them as gems indeed.

At no season of the year does the floral decorator find a plethora of flowers borne on long slender stems adapted for giving lightness to arrangements in which bolder flowers are freely used, and I know of but few flowers which serve this purpose better than do some of the strong-growing varieties of *Epacris*. I have still a vivid recollection of a delightful and truly artistic example of dinner-table decoration carried out some years ago, in which long spikes of these old favourites were associated with *Primulas* and a few single *Camellias*, those having rose shades of colour being exclusively used. For lightness and finish in arrangement and skilful blending of the various shades of rose I have seen nothing to surpass it since. It is a pity that plants with such good qualities should be neglected, and I trust this note will have the effect of again installing them in many a garden from which they have vanished.

Cool houses lately occupied by *Chrysanthemums* are excellent positions for flowering the plants, and from the time they require protection from frost till such houses are cleared of *Chrysanthemums* they succeed admirably in cold pits so long as the precaution of giving abundance of air on all favourable occasions is taken. Should it be necessary at any time to hasten them into flower, a little heat may be kept in the hot-water pipes constantly, and a fresh, brisk atmosphere maintained by a regular circulation of air except during the prevalence of sharp frosts. With this treatment it will be necessary to damp the floors and stages of the house occasionally, but only when the atmosphere feels uncomfortably dry. This kind of gentle forcing into flower *Epacris* will bear with impunity, but they should not be subjected to a close moist atmosphere at this stage, or the flowers will become pale in colour and wanting in lasting qualities.

When good sized specimens are in flower they are exceedingly effective if dotted about at intervals among the other occupants of the conservatory, and plants in 5 and 6-inch pots will be found invaluable for house decorations. After flowering the erect growing varieties should have the strong shoots pruned hard back, and the plants arranged in a position where they can have a little extra heat and moisture. I have found the front stage in a vinery, started a few weeks previously, a capital place for them. Gentle syringing ought to be given during bright weather, and the watering be carefully performed, as a sodden state of the soil is fatal to them at this stage, when growth has scarcely begun. Any that require potting ought to be done when the young shoots are about half an inch in length, ample drainage, as a matter of course, being given, and pots two sizes larger generally suffice.

A compost consisting of fibrous peat with a little broken charcoal and a sixth of sharp sand is suitable. This should be rammed very firmly, taking especial care that only a thin layer is added between each ramming. Just enough soil ought to be placed over the old ball to cover the surface, and if this is left level and firm, in my opinion it answers better than having the centre of the ball

either slightly higher or lower than the surrounding soil. After potting no watering at the roots will be necessary for a few days, but the syringings will be frequently necessary should the weather prove bright, and shading for a few hours daily will be beneficial. When it is found that water is required it ought to be done through a rose, and be done thoroughly, so as to moisten every particle of the ball.

With this treatment the young shoots will make good progress, and will need a greater amount of air to keep them sturdy. With this object in view, by the end of April they may with advantage be removed to a structure where an ordinary greenhouse treatment is given. At the end of June place them in the open air; the back of a north wall is a capital position. Plunge the pots two-thirds of their depth in ashes or cocoa-nut fibre refuse, pay strict attention to watering, and occasionally give slight applications of Clay's fertiliser. Strong shoots will thus be produced, and if the plants are arranged thinly the wood will become thoroughly ripened without exposure to more sunny positions, as some advocate. By the middle of September all ought to be removed to cool houses or pits, their subsequent treatment having been already detailed. The following are some of the best varieties:—*densiflora*, *Eclipse*, *exoniensis*, *Exquisite*, *hyacinthiflora*, *H. alba*, *H. candidissima*, *Lady Alice Peel*, *miniata splendens*, *rubra superba*, *Vesuvius*, and *Viscountess Hill*.—D. W. C.

DOUBLE PRIMULAS.

FEW plants are so valuable as these when successfully grown. They are useful for affording flowers for table decoration, also for greenhouse and conservatory adornment, and by judicious treatment may be had in flower for ten months of the year. The best method of propagating double Primulas is in the first place to prepare a quantity of well-decayed leaf soil passed through a fine sieve; it should be mixed with sharp sand in the proportion of one bushel of leaf soil to a peck and a half of sand; after this is done pack the compost rather tightly round the collar of the plants so as to form a kind of pyramid round each. This must be done in May or June to insure early flowers, and for succession others should be so treated a month later. The plants should be placed in a close house or pit, water being withheld from the roots, only syringing moderately to keep the compost moist. In about a month from the time of being dressed, roots will be found starting from the stems of the plants. It may be mentioned that before using the compost some of the leaves should be removed with a sharp knife, leaving about half a dozen to a head. Shading must also be employed to prevent the soil getting dry, as the less the plants are watered the better.

After the roots have taken a firm hold of the leaf soil the plants should be shaken out of the pots and divided with a knife, leaving all available new roots with each crown. Transfer the young plants into 60-size pots, which should be placed into a pit close to the glass, and if a little bottom heat be at command so much the better. For instance, an old Melon or Cucumber frame will answer admirably for this purpose. Shading must be again attended to, gradually lessening it as the plants become established, which can be seen by turning a plant or two carefully out of the pot, and then they should be shaded only when the sun is very strong. Repot them in about half and half leaf soil as finely sifted as before, and very light fibry loam with plenty of sand, providing good drainage.

When the plants are well rooted, which will be about a month from the time of potting, they will require shifting to 48-size pots, which are large enough however luxuriant the plants may be. The compost employed this time should be three-fourths turfy loam and one-fourth well-decomposed cow manure, the plants now being placed in a pit without any bottom heat.

The second and third successions should be placed in a house slightly shaded if the situation requires it, and kept close for a few days, then gradually inure them to the light, as after October they will require full exposure to insure good and strong foliage and flowers. The first potted plants will by this time be showing a number of flowers, and should be removed to a light structure or placed on shelves if only a small quantity is grown. The temperature of the house during the winter months must be as near 55° by day as possible, or rising to 60° with sun heat and falling to 50° at night. After the pots are filled with roots a little soot water may be given once a week with advantage, also a little Clay's Fertiliser once a month. The lower leaves when showing signs of decay may be cut in quite close either with a small knife or a pair of Grape scissors, removing a good quantity whether decayed or not where flower only is required, as this will encourage and prolong their blooming.

After the earliest plants have been in flower about a month they

will require a rest for a time. In three weeks, however, they will begin to flower again, but the second supply will take their place in the interval, so that by this means the cultivator may have a continuation of useful flowers till July. Shading must again be provided when the bright days of spring come, as the flowers soon become pinky, which deprives them of their value when pure white flowers are in request. Careful watering is essential throughout the season.—J. S.

OPEN AIR PEACH CULTURE.

(Concluded from page 596.)

PROTECTING the blossom against injury from frost must receive due attention. Some people retard the pruning or thinning out of surplus shoots and old wood as a means of further retarding the blossom, but I never could see the advantage of this. My practice is to prune the trees and commence with the tying, so that all is finished by the time the trees need protection. As before remarked, our wall is surmounted with a glass coping, which is put in at this period. The fronts of the trees are effectually protected by lengths of woollen net, which, besides admitting light, protects the trees against frost and cutting winds. On fine days the covering is drawn up, but pulled down at night, and also allowed to remain down during the day if at all cold and easterly winds prevail.

This covering we find a capital aid against the evil known as blister, which is a fungus that will not thrive unless the trees are exposed to cold winds. I may as well state that when selecting fresh trees, make a point that they have not been subject to blister. In a garden with which I was acquainted it was only when perfectly clean young trees were planted that "blister" could be stamped out, although subjected to the same treatment of covering. A wooden coping, even 12 inches in width, to remain up whilst the trees are in bloom, or as long as covering is needed, is also to be commended, and is much better than no coping at all. From this moveable blinds may be fixed, or a few thicknesses of fish netting.

During fine days, whilst the trees are in bloom, if there are any bees in the neighbourhood they will be sure to find out the Peach trees, and are a capital aid in securing perfectly fertilised flowers. Going over the trees about twice or three times at midday, with a large sized camel-hair brush is also a good method to adopt; but, after all, these aids will avail little if the trees are not otherwise in a healthy state, both at the roots and in the branches.

After the blossoms have set they will quickly swell, when the thinning out must commence. First remove all small fruits, thinning out also the double and triple buds down to one, leaving in all cases the most prominent. By removing thus early these small embryo fruits it gives a good opportunity of picking all decaying petals, which if left form a favourite lurking place for aphids. As time proceeds and the small fruits swell, take off by degrees other mis-shapen and useless ones, or, in other words, those not required for a full crop. A good gauge is the usual one—of a fruit to every square foot of space, or even 10 inches.

It will be understood that disbudding will also have to take place simultaneously to the thinning of the fruit. Do not leave the shoots too thick, but disbud so that there is a clear space between each shoot, also having an eye on the formation or extension of the tree. Good colour in the fruit is also of the greatest importance. To secure this end, each individual fruit must have full exposure, all overhanging leaves being removed. Highly-coloured fruits also command the best market prices, so it will be readily understood how important it is to well expose the fruit.

The syringing and the application of water to the roots is no less important than other details. The former must not be carried out indiscriminately. My practice is not to syringe unless the weather is genial, and then it is done just as the sun's rays go off the trees. As regards the application of water to the roots the soil must never be allowed to become dry. Whenever it is necessary to water give a thorough soaking, so that the soil is well moistened down to the drainage. Mulching will do much to lessen the need of water. For this purpose use litter as it comes from the stables. If any stimulant is needed one or two applications of Thomson's Vine manure should be given at intervals, to be followed in each case by a watering.

Peach trees are often greatly benefited by partial relifting, shortening back the stronger running roots, and relaying again with the addition of some fresh soil of the nature described for planting. This will be found an excellent method to adopt in the case of trees having an unhealthy yellow cast in the foliage, and is often the means of effectually restoring the trees to health. This yellow appearance is often caused from the lack of lime or potash, or both in the soil, and the application of these elements, under various forms, is resorted to by some of the best cultivators with great success. On the least sign of waning vigour in any case partial relifting ought to be adopted, even if this operation should have to be resorted to at intervals of three or four years.

When commencing, I noted my intention to individualise a few varieties by extended notice. The merits of the earlier sorts I need not dwell on, as these may be planted according to one's desires, and the names of which I have already given. In selecting varieties for planting, they must, above all, be healthy growers. For instance, those two well-known Peaches, *Royal George* and *Noblesse*, although of most exquisite flavour when cultivated under glass, are too tender for open-air planting,

unless the season should be most favourable. This season was an exception, and I never remember tasting higher flavoured fruit than we had this year of these two varieties from the open wall. We have, however, two excellent substitutes in Stirling Castle and Alexander Noblesse, both beautiful Peaches. Crimson Galande is a splendid variety for open-air culture, so also is Dr. Hogg, both of which precede the two former in the order of ripening. Dymond is also a capital Peach. This variety is not so well known as its merits deserve, and if I mistake not, will eventually become one of our standard Peaches. Bellegarde is too well known for me to comment further upon; so also are Barrington and Grosse Mignonne. The latter must not be confounded with an earlier Peach of this name, and known as Early Grosse Mignonne, which, for our purpose, is not worth growing. Princess of Wales is another beautiful Peach, so also is Walburton Admirable. I have already referred to this, and in a warm season—and which is needed for it to develop its highest qualities—it is really a grand late variety. Sea Eagle, although of rather low quality, is very showy, and is a variety that sells well. It is altogether a healthy grower and free cropper.—A. YOUNG.

FLOWER SHOWS.

THE above subject should be of great interest, as it most undoubtedly is of great importance, to gardeners and to lovers of gardening everywhere. Like your correspondent, "Vespa," and in his words, "I modestly claim the qualifications gleaned in the career of a gardener's life," to say a word on the subject. I fear it is not an easy matter—even if it were advisable—to gauge the amount of swindling carried on, say in England, or the percentage of gardeners who practise it. The reason is obvious. Those who practise dubious methods will, as a matter of course, either maintain a discreet silence or theorise in opposition to their practice.

I trust the charges brought by "A Scottish Gardener," are "all too sweeping," as asserted by "Vespa." I am sorry to have to admit, however, that there is a modicum of truth in what he says, and whether or not there be danger in "one of the craft putting his finger on the spot," there is, I think, infinitely more danger to the craft in leaving the "spot" unnoticed.

I cannot agree with him when, on page 574, he says, "Now, I think the only means of having shows as they ought to be is to do away with money prizes altogether and substitute instead certificates." It is not degrees, not expediencies we are dealing, or should deal with in this connection, but principles; and wherein would the principle differ when cheating for a certificate in exchange for cheating for a prize of money? "Scottish Gardener" further says, "Abuses will creep into every institution . . . as certain as that darkness follows light." Let it, then, be our part, as it certainly is our duty, to use all legitimate influence in assisting such abuses to "creep" out again as certain as that light follows darkness.

Neither can I agree with "Vespa," where, on page 596, he says in effect, if swindling be the rule, and not the exception, we are past redemption, and rather than prolong the miserable existence of such societies by any so-called remedy, he would revel in the throes of their dissolution. In his last paragraph this correspondent presumes to sweep away the whole fabric built by "A Scottish Gardener" by a stroke of his pen, or if he prefers it by a buzz of his gossamer wing, and immediately attempts to set up a fabric or theory on what, to me, seems at least an equally "false foundation."

Addressing "Scottish Gardener," he says, "But if we could believe you to be serious in your sweeping condemnation of a craft of which you are a member, why do you remain in it?" asking triumphantly, "Is it, then, for those horrid bawbees?" Would "Vespa" have "Scottish Gardener," presuming him to be an honourable man, abandon his position and its emoluments because some men in the ranks are not honourable? Imagine a ship in a sinking condition through the inefficiency, apathy, or ignorance of the crew; would "Vespa" advise the few officers who really have the welfare of the ship at heart to abandon her? A splendid opportunity is open to anyone, including "Vespa," wishing to immortalise himself, to name a trade, profession, or occupation in the ranks of which no "black sheep" are ever found.

I suppose it "darna" be disputed that, other things being equal, he who shows fairly and squarely, is a better man than he who does ever so little swindling. The influence of such a one, especially if tempered by discretion and tact, is incalculable; his example cannot fail to improve the morals of those with whom he comes in contact. Instead of "doing away with money prizes," or taking pleasure in the dissolution of horticultural societies—be they never so corrupted—let us rather practise and advocate an all-round elevation of morals, let us henceforth prefer rather to lose a prize by our own exhibit than to win one by exhibiting the produce of another, and thus untie the Gordian knot rather than exhibit our helplessness by clumsily cutting it asunder.

As in theory, so in practice, let us—the whole brotherhood of gardeners—commence this year not only by speaking truly, but by acting out the truth in our daily lives. We shall find this a mighty power in securing for us that which I feel certain we heartily wish each other—namely, a happy New Year.—ARGUS.

A "SCOTTISH GARDENER" takes a much too dismal view of flower shows. Although a capable man, as the Editor points out, it is plain to see he is not an exhibitor, even if he has ever been one, and therefore has little sympathy with exhibitors in general. Because a certain newspaper thought fit to pad its pages with an article containing vague

assertions of the supposed practice alluded to, "Scottish Gardener" rushes into print with a desire to abolish exhibitions as carried out under the present system. A few instances of such unfair examples that have come under his observation would have strengthened his case very considerably. As an exhibitor and a judge of many years' experience, I can safely say I have come across a minimum of such instances.

I fear the scheme which "A Scottish Gardener" would have us embrace of substituting certificates for the present handsome prizes will not meet with much favour, either in Scotland or elsewhere. I fancy the magnificent productions seen from time to time all over the country would quickly dwindle away. Does he think his brethren in Scotland would have had the opportunity of seeing that very fine exhibit of cut blooms that carried to England the Scottish trophy only so recently as the last show held in Edinburgh if nothing beyond a certificate was the reward? Again, "A Scottish Gardener" exposes his want of knowledge relating to exhibition products when he states, "It does not cost more to grow good vegetables, fruit, or flowers, than to grow inferior ones. Consequently, a gardener in exhibiting his produce does not put himself or his employer to any extra expense beyond that of travelling." "A Scottish Gardener" evidently is not aware that many leading cultivators and exhibitors of Chrysanthemums alone spend £5 annually of their own money in buying the new varieties, as they know quite well it is useless to compete with the older and inferior ones. He evidently knows little about the extra cost involved in manures, to produce extra good blooms. Inferior ones can be obtained without these aids. "A Scottish Gardener" says that provincial shows will not suffer if the best exhibits from private gardeners were to remain away, because the nurserymen would look after their own interest in that direction, and goes on to say that the best exhibits he saw "at many of the shows he visited this year were those of nursery firms." With all due deference to the many excellent exhibits seen from time to time at shows from nurserymen "not for competition," they cannot compete with those of private growers; neither do I think there is a single nurseryman who conscientiously says so. They are not intended to be rivals to competitive exhibits.

I fear "A Scottish Gardener's" experience of shows is limited to a very narrow area. Surely his concluding paragraph is in direct opposition to facts. Never was the whole exhibiting world in such a healthy state as at present. New societies are springing up, while but a very few indeed are on the wane, and when such a society as that held in his own capital comes out with a balance of £100 on the right side, after experiencing three thoroughly wet days and after spending £1000 in one way or another. Surely such facts are sufficient to show the bias and want of direct knowledge displayed by "A Scottish Gardener."—SADOC.

THE subject raised by your correspondent, "A Scottish Gardener," on page 574 of the Journal is an important one, inasmuch as it affects a community of men that is generally looked upon and respected for integrity and straightforwardness. There are no doubt exceptions, as in all bodies, but not enough to justify your correspondent in stating that the abuse and its baneful effect through illegal exhibiting has overbalanced the good object of flower shows, and that the time has arrived when such institutions should cease to exist.

There is perhaps some reason in the suggestion that it would be better to give certificates instead of money prizes as it might help to do away with the abuse. But I for one could not hold up my hand for it, as I do not think it would create such a stimulus among exhibitors as there is at present, consequently flower shows would begin to wane, although your correspondent thinks nurserymen would keep them up. That may be so as regards plants and cut flowers, but what of the splendid displays of fruit we see which form such an important feature of our shows? Nurserymen do not as a rule grow Grapes, Melons, Peaches, Nectarines, and Figs, neither do they grow vegetables for exhibition. I see one of our large seed firms is offering £500 during the coming season in different parts of the kingdom in prizes for vegetables grown from their seeds, which in itself sounds much better than a certificate, and will be sure to bring out better vegetables than all the certificates in the world.

It may be thought from what I have said that I am siding with the illegal exhibitor. Such, however, is not the case, only instead of doing away with flower shows I would punish the offender. I am a member of a flower show committee which gives £100 in prizes every year, and at one of our recent meetings we had to deal with this thorny question, complaints having been received that some exhibitors staged what they did not grow. The matter was laid before the meeting and various suggestions made with a view to stopping it. One member suggested that as it was obtaining money by false pretences, such offence being punishable by law, that any exhibitor found guilty should be prosecuted, but this suggestion did not meet with the support of the majority of the committee, as it was thought the society would suffer from such an action. Eventually a resolution was put and carried that any exhibitor found guilty should forfeit his prize money and be debarred from exhibiting again.

I remember a case where a gardener used to do it a good deal. His employer saw at one show that he was awarded prizes for fruit which he knew was not grown in his garden and did not belong to him. He spoke to his gardener on the subject and forbade him to exhibit again. I was asked by a neighbouring gardener some years ago if I could lend him some small plants to make up an exhibit. I replied, No, as it was unfair and dishonourable, and I would not be a party to it.—P. V. H.



WEATHER IN LONDON.—Mild and exceedingly open weather continues in the metropolis. Sharp frosts are still conspicuous by their absence, while the air is clear and bracing. No rain has fallen during the past week, and at the time of going to press pleasant weather prevails.

— WEATHER IN THE NORTH.—The close of the old, and the beginning of the new year, have been marked by unseasonably open weather. Monday and Tuesday were rather brighter, with a slight tendency to frost in the early morning, and sunshine for a little time during the day.—B. D., *S. Perthshire*.

— RULES FOR JUDGING.—We are desired to state that the publication of the R.H.S. rules for judging is unavoidably delayed a week or ten days owing to an unfortunate loss in the post of the final corrected proof for the printer the week before Christmas. The loss has only just been discovered.

— THE ROYAL HORTICULTURAL SOCIETY will hold its first meeting for 1896 in the Drill Hall, James Street, Victoria Street, Westminster, on Tuesday, January 14th.

— THE MILDNESS OF THE WEATHER.—Mr. W. J. Murphy, Clonmel, writes:—"We have a remarkable climate in Ireland—very often a climate of unexpected extremes. Who would foretell that the months of November and December, and January, so far, should be without either frost or snow; and that generally the temperature should be above 50°? Yet this has been literally the fact. Cattle are still feeding on the pastures—grass grows apace. Some fruit trees look as if they were about to open into blossom, while the open air temperature for the past ten days at Clonmel has been seldom below 58°. Bunches of Violets are collected in the open air; Chrysanthemums, Pansies, and the early spring flowers are showing with every indication of an abnormally early spring."

— MILD WEATHER AND ITS EFFECTS IN SCOTLAND.—The Rev. David R. Williamson writes—"The mildness of the season in Scotland, and especially in Wigtonshire, is at present extraordinary. In my garden Rose trees recently planted are rapidly producing vigorous shoots. A few days ago I discovered on a plant of Countess of Pembroke (Hybrid Tea) a bloom as absolutely faultless in colour and form as those of July. On January 3rd I came upon an almost equally fine specimen of Caroline Testout. The fair Madonna Lily, *Lilium candidum*, which is an absolute evergreen, is more luxuriant in its foliage than I have ever seen it at this season of the year. Snowdrops are already far advanced in growth, and Lily of the Valley is appearing above the ground. The Naked-flowering Jasmine (*Jasminum nudiflorum*), which opens up its primrose blossoms in the heart of the winter, is now in full bloom. Lilac Primroses are growing with vernal rapidity, and developing buds, as if the inspiration of spring were at hand. In a garden adjacent to mine Rhododendrons are in flower."

— GARDENERS' ROYAL BENEVOLENT INSTITUTION.—A general meeting of the members of the Gardeners' Royal Benevolent Institution will be held at Simpson's, 101, Strand, in the county of Middlesex, on Thursday, the 16th day of January, 1896, at 2.15 P.M., to consider and adopt partial alterations and additions to the existing rules of the Institution recommended by the Committee of Management. And the fifty-seventh annual general meeting of the members of this Institution will be held at the same place and on the same date at 3 P.M., for the purpose of receiving the report of the Committee and the accounts of the Institution for the present year; electing officers for the ensuing year, and other affairs; and also for the purpose of placing fifteen pensioners on the funds, five under Rule III. 5, and the remaining ten by election. The voting papers have been issued. Any subscriber who has not received one should communicate with the Secretary, George J. Ingram, 50, Parliament Street, London, S.W. After the annual meeting, the usual friendly supper will be held also at Simpson's, when Peter C. M. Veitch, Esq., of Exeter, will preside. Friends who desire to be present should communicate with the Secretary at the above address.

— POETRY AND HORTICULTURE.—Mr. Alfred Austin, who has just been appointed the successor of Lord Tennyson in the office of Poet Laureate, is a graceful and musical poet, and an accomplished amateur horticulturist. He is, indeed, as his writings on the subject testify, absolutely devoted to horticulture. His picturesque books entitled "The Garden that I Love," and "In Veronica's Garden," have already passed through several editions. He lives at Swinford Old Manor, Ashford, Kent, and is a neighbour of that versatile florist and eminent rosarian, the Rev. H. H. D'Ombrian.—D. R. W.

— ROYAL METEOROLOGICAL SOCIETY.—The annual general meeting of the Society will be held, by kind permission of the Council of the Institution of Civil Engineers, at 25, Great George Street, Westminster, on Wednesday, the 15th inst., at 7.45 P.M., when the report of the Council will be read, the election of officers and Council for the ensuing year will take place, and the President (Mr. R. Inwards, F.R.A.S.) will deliver an address on "Meteorological Observatories," which will be illustrated by lantern slides. The above meeting will be preceded by an ordinary meeting, which will commence at 7.30 P.M. Copies of the balance-sheet for 1895 can be obtained upon application on and after the 13th inst.

— CHIMONANTHUS FRAGRANS.—This hardy wall plant is again flowering profusely here. So satisfactory an occurrence is no doubt to be attributed to well matured wood. We have plants growing on east and west aspects, and I fail to see any difference in the time of flowering. Growing, as ours are, by the side of doorways persons passing through get a whiff of their spicy odours which is sure to arrest attention, more especially when the blossoms catch a glimpse of the sun for a few minutes, for then the immediate surrounding air is more sensibly perfumed. Where a small space on a wall on each side of a door could be spared for a couple of plants it would well repay the owner in the pleasantness of its perfume at this dreary season, when outdoor scented flowers are scarce.—J. EASTER, *Nostell Priory Gardens*.

— LIVERPOOL HORTICULTURAL ASSOCIATION.—For some time past the monthly meetings have not been attended as the Committee would wish, more especially by under gardeners; but the meeting held on Saturday evening (Mr. T. White presiding) in the Free Library brought back memories of old times, for the room was crowded in every part by an attentive audience. As on a previous occasion, two papers were announced—viz., "Apples," by Mr. E. J. Baillie (Dicksons, Limited, Chester), and "Culture of the Eucharis," by Mr. Jno. Glover, gardener to Major W. H. Walker, Gateacre Grange. Mr. Baillie, in the course of an admirable address, said that the value of Apples was much underrated. He mentioned varieties, and dwelt especially on an article he had read in an American Bulletin on the "Pollination of Fruit Trees," which gave illustrations of varieties grown by themselves as being vastly inferior to those growing amongst other varieties, the distribution of the pollen having a marked effect. He touched on the value of many kinds for planting amongst shrubs, claiming for them, apart from their usefulness, equal rank with the Almond, double flowering Cherry, and others. In concluding he expressed the belief that orchards of pyramids, heavily cropped with roots near to the surface, liberally fed, and not grown beyond a useful bearing period, was the one way to keep English fruit up to the highest standard and to make it a paying concern.

— MR. GLOVER, in a very practical paper, at the same meeting, gave the temperature for Eucharis at from 60° to 70°, and recommended potting in February and March, the compost used being three parts loam, one part peat, with the addition of some coarse sand and pebbles which, previous to being used, is warmed to the same temperature of the house. Three inches of crocks are placed in a 10-inch pot covered with a rough piece of fibry sod, planting the bulbs 1½ inch below the rim of the pot. Two years he considered quite often enough to repot. Feeding and resting were fully treated, his advice being to give abundance of moisture during spring, summer, and early autumn. He did not believe that the same bulb flowered more than once in a season, and said in his opinion the mite was caused by the plants not having sufficient rest, which caused them to become enfeebled. A lively discussion ensued. The Committee acknowledged a kind gift, through Mr. R. Pinnington, from Mr. H. J. Jones, Ryecroft Nursery, Lewisham, of a guinea donation and two silver-gilt Ryecroft medals for competition, the latter to be used at the discretion of the Committee without any restriction. The Association's annual dinner, which is always a great success, is to be held at the Adelphi Hotel on Saturday next, January 11th. An early application for tickets is requested.—R. P. R.

— LORD ABERDEEN is said to be making a genuine success of his fruit and hop farms in British Columbia.

— EUPATORIUM PROBUM.—As a flowering plant in the dull months of the year this Eupatorium is most useful for conservatory decoration, and equally so for buttonhole and bouquet making. The old plants are scarcely worth keeping two years, as they are more vigorous and flower more freely if propagated annually from cuttings rooted in March or April. With two shifts, the final one in July, useful decorative plants are obtained by the winter. When the pots are filled with roots weak liquid manure must be given two or three times weekly, otherwise the foliage soon assumes a sickly hue.—H. WILSON.

— STACHYS TUBERIFERA.—We grow a large quantity of this excellent winter vegetable here, and from questions that I have been asked by ladies and gentlemen staying during the shooting season I should think it is not so well known as it ought to be. I have been frequently asked, Is it difficult to grow, and where can I get the "seed"? Some went so far as to say they preferred it to Asparagus and Seakale that was being sent to the table at the same time (November and December). It is a real gardener's friend. Not at all particular as to soil or situation, we have it equally as good at the back of a north wall as on a west border. If planted in spring 18 inches apart, kept free from weeds, it is certain to do well, and will stand any amount of frost.—T. H. CRASP, *Osberton*.

— SUSSEX RAINFALL.—The total amount of rainfall at Abbots Leigh, Haywards Heath, for the past month was 3.43 inches, being 0.69 inch above the average. The heaviest fall was 1.28 on the 16th. Rain fell on eighteen days. The total for the year is 27.62 inches, which is about 3 inches below the average. The maximum temperature in the shade was 55° on the 5th, the minimum 23° on the 11th; mean maximum 44.03°, mean minimum 34.23°; mean temperature 39.13°, which is 1.56 above the average. A mild, rather wet month, with very little frost, with the only snow of the season on Christmas morning, but which melted as it fell on the lowlands. The last three days of the year were remarkably mild, above 50° in the shade, and New Year's Day was equally fine.—R. I.

— ROYAL HORTICULTURAL SOCIETY. — SPECIAL PRIZES FOR NEW PLANTS. — With the hope of encouraging individual effort and original research the Council of the R.H.S. offers medals (silver or silver-gilt, according to merit), for the following:—I. *Introduced Plants*.—A. The best hardy plant not previously shown at any of the Society's meetings (Narcissus excluded).—Amateurs. B. The best hardy plant not previously shown at any of the Society's meetings (Narcissus excluded).—Open. C. The best stove or greenhouse plant (Orchids excluded) not previously shown at any of the Society's meetings.—Amateurs. D. The best stove or greenhouse plant (Orchids excluded) not previously shown at any of the Society's meetings.—Open. E. The best Orchid not previously shown at any of the Society's meetings.—Amateurs. F. The best Orchids not previously shown at any of the Society's meetings.—Open. II. *Plants of Home Production*.—G. The best hardy plant (raised and shown by an amateur), with record of parentage, &c., not previously shown at any of the Society's meetings (Narcissus excluded).—Amateurs. H. The best hardy plant raised in this country, with record of parentage, &c., not previously shown at any of the Society's meetings.—Open. I. The best stove or greenhouse plant (raised and shown by an amateur), with record of parentage, &c., not previously shown at any of the Society's meetings (Orchids excluded).—Amateurs. K. The best stove or greenhouse plant raised in this country, with record of parentage, &c., not previously shown at any of the Society's meetings (Orchids excluded).—Open. L. The best Orchid (raised and shown by an amateur), with record of parentage, &c., not previously shown at any of the Society's meetings.—Amateurs. M. The best Orchid raised in this country, with record of parentage, &c., not previously shown at any of the Society's meetings.—Open. The above prizes may be competed for at any meeting of the Society, 1896, except at the Temple and Crystal Palace shows. The judging will be by points, which will be duly kept and recorded, and the winner will be announced at the end of the season. The Council reserves the right to withhold all or any of the prizes if none of the exhibits is considered worthy of marked honour. As many details as possible should be given about the exhibits, as fullness and exactitude of information may decide the prize in case of equality of points. All entries for the above special prizes must be made before 11 A.M. on the morning of the show on a special form, which may be obtained of the clerk at the table. A considerable number of prizes are offered for Narcissi, to be competed for at the several meetings held during March, April, and May.

— DECEMBER WEATHER AT DRIFFIELD.—Mean temperature at 9 A.M. (corrected), 37.47°. Wet bulb, 36.37°. Mean maximum, 41.9°; mean minimum, 33.34°. Highest, 52.8° on the 4th; lowest, 26.5° on the 8th. Mean of maxima and minima, 37.62°. Mean radiation temperature on the grass, 28.43°; lowest, 19.8° on the 9th. Rainfall, 2.33 inches. Number of rainy days, sixteen. Greatest amount on one day, 0.5 inch on the 28th.—W. E. LOVEL, *Observer, York Road, Driffield*.

— DECEMBER WEATHER IN SOUTH WALES.—The following is a summary of the weather here for the past month:—The wind was in a N.W. direction for fourteen days and in a S.E. direction for eleven days. Total amount of sunshine, 30 hours 35 minutes. Sunless days, seventeen. Rain fell on twenty-seven days. Total rainfall, 6.01 inches; maximum, 1.13 inch on the 5th; minimum, 0.01 on the 1st. Snow fell on seven days. The 12th was a very stormy day, as we had rain, snow, hail, thunder, and lightning. There have been very strong winds throughout the month. Total rainfall for the year, 53.81 inches. Sunshine, 1469 hours 50 minutes. There were seventy-three sunless days.—W. MABBOTT, *Dowlais, Glamorgan*.

— WEATHER IN DECEMBER AT HODSOCK PRIORY, WORKSOP, NOTTS.—Mean temperature of the month, 38.1°. Maximum on the 6th, 54.8°; minimum on the 22nd, 19.8°. Maximum in the sun on the 13th, 83°; minimum on the grass on the 22nd, 15°. Mean temperature of the air at 9 A.M., 37.1°. Mean temperature of the soil 1 foot deep, 40°. Nights below 32° in the shade, sixteen; on the grass, twenty-seven. Total sunshine in the month, seventeen hours, or 7 per cent. of possible duration; we had twenty sunless days. Total rainfall, 2.12 inches; rain fell on seventeen days. Average velocity of the wind, 12.1 miles per hour. Velocity exceeded 400 miles on eight days; fell short of 100 six days. Approximate averages for December:—Mean temperature, 37.1°; sunshine, thirty-two hours; rainfall, 1.97 inch. A dull and mild month, with very little frost or snow and about average rainfall.—J. MALLENDER.

— DECEMBER WEATHER.—December was cool and dull, without much frost, excepting a cold period from the 20th to the 26th. Falls of snow occurred on the 16th and the 24th, most of which melted as it came. The wind was in a westerly direction nineteen days. Total rainfall 1.98 inch, which fell on nineteen days, the greatest daily fall being 0.36 inch on the 12th. Barometer, highest reading 30.186 on the 27th at 9 P.M.; lowest 28.782 on the 16th at 9 A.M. Thermometer, highest in the shade 55° on the 5th; lowest 20° on the 22nd. Mean of daily maxima 42.19°; mean of daily minima 32.61°. Mean temperature of the month 37.40°; lowest on the grass 15° on the 22nd; highest in the sun 82° on the 6th. Mean earth temperature at 3 feet 42.74°. Total sunshine twenty-seven hours forty minutes. We had sixteen sunless days.—W. H. DIVERS, *Belvoir Castle Gardens, Grantham*.

— THE DEVON AND EXETER GARDENERS' ASSOCIATION.—The members of this Society held their annual supper on Friday last, under the presidency of Mr. Weeks. A large company was present, including numbers of the officials and members. After the customary loyal toasts, the Chairman submitted the toast of the evening. He remarked that the Association was formed four years since, and that it could compare very favourably with other institutions in the county. Men of long experience in the horticultural profession, and capable of giving the very best advice, had read before the members many essays. In the summer they enjoyed a very pleasant day's excursion, and their thanks were especially due to the ladies and gentlemen who had generously thrown open their grounds and, in some cases, their mansions. Another object of the Association was to try to get every member to provide something for himself in his declining years by joining the Gardeners' Benevolent Institution. Mr. Hope, in responding, said he had been identified with the Association from its inception. As a social, educational, and horticultural medium it had been of much value. The need of the Association had been proved by its good works, and the success which had followed the active interest of the members. The contributors of the essays were masters of their subjects, which made the papers valuable. One of the most hopeful features of the Association was the exceptional skill and ability with which the younger members prepared their papers. The Association held the proud position of being in the very front rank of similar institutions in the country. Gardening was one of the most honourable and one of the oldest crafts. Many illustrious names in the world's history had been connected with it. In their Association the amateur and the professional, like the lion and the lamb, lay down together; only honest and friendly rivalry existed between them. Other toasts were received with equal pleasure, and with these and some good music a most enjoyable evening was spent.

— **PERSIMMON.**—The "American Agriculturist" says:—"In the development of fruits the native Persimmon has been neglected. Attention has been called to it recently, and Professor Troop of the Indiana Experiment Station is making quite extensive experiments in cross-fertilisation and hybridisation. To most persons even the wild fruit is a delicacy. Its value ought to be greatly enhanced by culture. The hardy Paw Paw is also receiving consideration. It is rather delicate and difficult of propagation, but careful growers can succeed with it. Good natives are often overlooked for questionable foreigners."

— **RAILWAY RATES.**—We learn that the rates for the carriage of fruit and vegetables to London by the London and South-Western Railway Company have been revised, and considerably reduced. From all non-competitive stations to London the rates for fruit and vegetables in classes C and 1 and 2 of the general railway classification in small consignments of 1 cwt. and under came into operation on the 1st inst. These classes include the principal descriptions of fruit and vegetables placed on the market, and exclude only the more valuable produce, such as Apricots, Grapes, Peaches, Nectarines, and other fruit from under glass. The new rates show a reduction in class C or 1 ranging from 33 to 20 per cent., and in class 2 from 29 to 14 per cent., and they will include delivery by cart within the usual delivery boundaries. The interest of growers will be best served by the concentration of produce, and its transmission in large quantities to the market salesmen. But inasmuch as some time must of course elapse before the necessary organisation can be brought into operation, these reduced rates for small quantities of fruit and vegetables will be of great practical benefit to growers.

— **THE CABBAGE MAGGOT.**—The Cabbage maggot, which is the larva of *Anthomyia Brassicae*, is a destructive pest of the Cabbage in Europe, where it sometimes destroys entire fields of young plants. But although it has been occasionally noticed in America for the past fifty years, it has rarely appeared in such alarming numbers, says a transatlantic contemporary, as it has during the present year on some of the truck-farms of North Carolina. If the maggots appear in the seed bed a dressing of lime or muriate of potash should be given to the soil, or enough of the kerosene emulsion to wet the ground 1 inch deep. If plants in the fields are attacked a hole should be made near each plant with a sharp stick about an inch in diameter and as deep as the roots of the plant, and filled with the kerosene emulsion. If this does not moisten the soil on all sides of the plant, a similar hole on the opposite side should be filled. The emulsion should be made of half a pound of hard soap, one gallon of water, and one gallon of kerosene oil, diluted with nine times its bulk of cold water before using. When properly made this emulsion does not hurt the plants, but if any of the free oil rises to the top it should not be allowed to touch the leaves.

— **HORTICULTURAL LECTURES.**—To a very large gathering of the members of the Reading Gardeners' Association on the 30th ult. Mr. A. Dean of Kingston-on-Thames delivered an address on the horticultural work of the Surrey County Council. Mr. Woolford presided. The speaker, after explaining the nature of technical education, and how the Government grant for its promotion originated and was distributed amongst the County Councils, said that Surrey had from the first been in the van in this matter, and had especially favoured instruction in gardening. There was no subject taught that was not only so generally useful, but also so generally interesting to all classes, old and young, and to both sexes, as gardening. The winter courses of lectures given in selected centres, six at a place, all over the county; the cottage garden and allotment inspections and judging, the addresses at village flower shows, the various vegetable trials conducted, and, not least, the school or continuation gardens, of which there are some thirty plots, and about 450 distinct gardens, all placed under the best local control, were all described, much to the interest of the large assemblage of gardeners. Strong opinions were later expressed as to the sad neglect of this important subject shown by the Berkshire County Council. On January 3rd Mr. Dean addressed the newly formed allotment holders of Feltham, Middlesex, in the Public Hall. There was a good attendance. Mr. J. Coppin, C.C., was in the chair. Here, beyond brief reference to the work of instruction in Surrey, the theme was purely cultural, the culture of allotments being touched upon from the aspect of deep working and reliable manuring and the same, and then most desirable cropping. Mr. Councillor A. Gerard of Richmond, recent Secretary to the allotment holders at that place, also addressed the audience. Hearty votes of thanks to the speakers and the Chairman were awarded at the close of the meeting.

— **COCOA-NUT FRUIT.**—This usually develops but one seed, although there are indications that the fruit should be three-seeded, one being the three dark marks at the end of the fruit which are not covered by the horny shell, and would serve as outlets for the growths of the germinating seeds. In an interesting paper on the development of a single seed in the fruit of the Cocoa-nut Palm (*Cocos nucifera*), read by Dr. Morris, C.M.G., at a recent meeting of the Linnean Society, allusion was made to the occurrence of Palms with twin and trifid stems arising from one base. Dr. Morris showed these were due to several seeds in one fruit, or to more than one embryo in a seed, or to a branching of the primary shoot. In cases cited by Rumphius, Forbes, and others, several seeds were found in one fruit.

— **ARBUTUS UNEDO.**—The Strawberry Tree, as this plant is often called on account of the slight resemblance of the fruit to a Strawberry, is a native of the shores of the Mediterranean and the west of Ireland. Its principal claim to the attention of the gardeners of this country is its time of flowering, which is from the end of November to the middle of January, when it makes a very gorgeous display of its almost pure white nodding panicles of flowers. There is, says "G. W. O." in the "Garden and Forest," a large plant of it in the conservatories at the Botanic Garden at Washington which is yearly covered with bloom, but, curiously enough, although it has been there over twenty years it has never been known to bear fruit. This is probably owing to the absence of insects at that time of the year. The fruit is quite as attractive as the flowers; the colour is reddish yellow; size about an inch in diameter, covered with minute warty protuberances which give it a very fascinating appearance. A good-sized plant, grown in a tub, is quite an ornament for outdoor decoration in summer, and few plants are found more useful for winter-flowering in a cool greenhouse where there is abundance of head-room. Cuttings taken about this season root before spring in a cool house. The plants ought to be grown in soil containing a liberal quantity of peat and sand.

— **WEATHER IN GUERNSEY.**—Since writing you last we seem to have come to the end of the rainy season, wherein we had rain more or less on sixty-one consecutive days. None, however, has fallen since New Year's Day, the wind has changed from S. to E. by N.E., therefore much colder, but as yet no sign of either frost or snow. Grass is looking fresh and except where the land has been overdone with moisture there is an abundance of it, so that cattle need very little dry fodder at present. As showing the mildness of the season, I picked fresh Primroses from the hedgebank in one of the lanes here on Christmas Eve. Most of our growers under glass are now busy planting for the coming season, and the early growers who plant Potatoes, French Beans, and Peas in October will have these ready to dig and gather by the commencement of the London season. A few parcels have been sent already. There is nothing like the amount of greenhouse building going on this winter as in the two or three preceding years. I am inclined to think the unremunerative prices of the past season have given a sensible check to this, for a time at any rate, not a few eager speculators having burnt their fingers. I hope, however, the coming season, both here and in the old country, will be a better paying one all round. A happy new year to the staff and all the readers of the Journal, from—X.

— **SUMMER FÊTE FOR CHESTER.**—We are informed that an influential meeting was recently held at the Grosvenor Hotel, Chester, for the purpose of considering the desirability of holding a monster summer show of flowers, fruit, and vegetables, with a musical fête at Chester, in place of the now abandoned autumn sports. Mr. H. Enfield Taylor presided, and in introducing the proposal alluded to the great success that had attended similar gatherings at other places, and pointed out the advantages that would accrue to the city from the fête. Various points were discussed at length, and the important statement was made that horticulture would be placed in the forefront of the exhibition. It was unanimously resolved that a show of flowers, fruit, and vegetables, combined with a musical fête, similar to that held at Shrewsbury, should take place on the Roodee in August. The question of finance was carefully considered, with the result that it was decided that a schedule of prizes for horticultural produce should be at once prepared and issued. It was resolved to invite His Grace the Duke of Westminster to be President, with Mr. Yerburgh, M.P., and the Mayor as Vice-Presidents. A committee was appointed to carry out the provisional arrangements, Mr. J. Wynne Ffoulkes being made Hon. Sec., and Mr. E. Andrews Official Sec. Such arrangements were made in the room as to enable the Horticultural Committee to authorise the issue of a schedule list of prizes up to the amount of £400.



THE ROSARIAN'S YEAR BOOK.*

TRULY the whirligig of time brings many changes, and we are always glad to see them when they are changes for the better. We have known the time when an ardent rosarian would "not write another line" for the *Journal of Horticulture* because he was not permitted to employ language as strong as he desired against a gentleman of much longer standing in the Rose world than himself. The *Journal* came out as usual, never missing a week, and calm followed the storm. No doubt our impulsive contributor—a man of generous heart, without a doubt, and bright, keen intellect—has longed to write again since then, in token of the gratitude he now must feel for the movement which at the time surprised him, but happily, as was intended, led from war to peace. May harmony and goodwill prevail throughout the Rose-loving community, and thus prove in this as in other associations that unity is strength.

The National Rose Society has grown steadily stronger from year to year, and we shall hope to see similar progress in the future. Its position has not been won by spurts and forced efforts, but is the result of what may be termed healthy natural growth, and hence the more likely to be lasting, giving good hope for the future. The Society has done much in extending and improving the cultivation of the Rose and encouraging the production of new varieties; and not Roses for "shows" alone, but Roses for gardens, and thus making home surroundings beautiful and sweet; also it has been the means of adding to the rosarian's library season after season—the "Year Book."

Externally the annual is "always the same"—neat and suggestive with its bordering of the seasons, the happy inspiration and skilful manipulation of Mr. W. G. Smith—but in contents always different. Sometimes the articles have been to a noticeable extent light and racy, at other times generally solid—often a mixture of both. The present issue may, perhaps, be classed among the solid series; but it is varied alike in subjects and treatment. The articles, though necessarily limited, cover a wide field—biographical, poetical, historical, and meteorological, with a few others between; while, as usual, the pictorial aspect is not overlooked.

An excellent photogravure of Mr. Alexander Dickson, a popular member of the famous Newtownards firm, faces the title page. Mr. Charles J. Grahame, in the first article, writes justly and appreciatively of the commanding success of Messrs. Dickson in raising new Roses, of which he notes there are nineteen in commerce. Most of these are mentioned in the article, or on another page of the book, and it may therefore be helpful to those of our readers who desire to win some of the prizes offered by a "leading amateur," whose identity we are left to guess, though possibly it is not very deeply enshrouded in mystery. Mr. Grahame goes on to say:—"The popular young rosarian, Alexander Dickson, jun., the subject of the present short sketch, may, I think, be now said to be the moving spirit in the great firm of which he is a partner. He is young and energetic enough, having been born in 1857, to give promise of delighting us with Roses of colourings and varieties which have not even been dreamt of, although I never expect, nor indeed hope for, a blue Rose." Nor do we. So it comes about that we agree with the narrator, as we do also in the tribute he pays to Mr. Alexander Dickson, as a genial and courteous Irish gentleman.

The Rev. David R. Williamson follows with tender lines of poetry on the "Ministrations of Flowers,"

"Ethereal offsprings of this marvellous earth,
That bless our lives and grow upon our graves."

Then comes Mr. John Howard of San Francisco with an article on "Rose Growing in California." Roses are said to grow with such luxuriance there (by the aid of irrigation) as to evoke feelings of wonder that so much care is bestowed on them in England. It is because they are responsive to this care, and well repay for it by their beauty. Mr. Howard refers with approval to Californian flower shows as parades of decorated vehicles, instancing "six thousand Duchesse de Brabant Roses fastened to a carriage and shown with splendid effect." In this he displays the absence of the instinct of the true British rosarian, who would regard such a spectacle as the degradation of the Rose.

Mr. George Paul has a good word, or rather several paragraphs on "Single Roses for Garden Decoration," particularly for pillars and large masses. He enumerates and briefly describes the characteristics of several, going on to say, "By far the brightest coloured variety is Carmine Pillar, which has proved thoroughly hardy, and with its erect growths of shiny green foliage and carmine scarlet flowers forms a

perfect pillar Rose." Mr. Paul recognises the excellent work of Lord Penzance with Sweet Briars, and sees great possibilities of further advances in the same direction that may have surprises in store. It is very likely, and Lord Penzance in a highly interesting article on the "Progress in the Hybridising of Roses" tells of his experience—of his successes, disappointments, hopes, and fears. It is a very suggestive article, and few there can be who on reading it will not wish that his lordship could be young again.

"The History of the Provence Rose" is traced by the Rev. G. E. Jeans. The author goes back to the far-past times of Herodotus and Pliny. He traces the Rose to the gardens of Pæstum, a town in the Greek part of Italy. The Rose spread far until it became known as the "Campanian." Mr. Jeans evidently regards it as producing the "twice-flowered" Roses of Pæstum, and believes the market gardeners there were the originators of the race of Remontants, or Hybrid Perpetuals. He does not accept the opinion that the name of "Provence Rose" is a misnomer, and should be the "Provins Rose," and for reasons stated concludes that Provins Roses are Damasks. Following his old favourite the Campanian, Provence, or Cabbage Rose from Italy, Mr. Jeans says:—"It is well known that wherever Rome went she carried not only her organising methods, but her luxuries—her baths, her tessellated pavements, and her Roses. Some of these last doubtless came as far north as even to the unhappy Britons, sundered from all the world. But many more went with far less trouble to the rapidly civilised Gaul, where they found a climate and soil which exactly suited them; and when the Roman Empire broke into pieces, and Pæstum became the beautiful desert which we now find it, the sturdiest of Roses had so settled itself in Gallia Provincia that it took a new name, and was no longer the 'Campanian,' but the Rosa Provincialis, or 'Provence Rose.'" A well reasoned article, worthy of its place and of perusal.

The Editor, in his pithy little preface, trusts "there is still something to be said for the queen of flowers." He says "something" over fourteen or fifteen pages, and says it well—a comprehensive review of the last Rose year. It is a record of many things with comments—an easy, natural chat on matters which interested him, and is certain to be read from end to end. The article betokens no signs of what he fore-shadows, and possibly, like another "young" veteran, he may be found some ten years hence trotting off to Biarritz.

Mr. Edward Mawley, whose stress of work impelled him to seek release from his secretarial duties, but under great pressure fortunately still retains them, is also "in" the book. He is more fortunate than some writers, who would write more if they could find a fresh subject; he never has to search for one. It comes to him every morning without fail—his constant friend the weather. How closely he watches it and its effect on the Roses the whole year round. How carefully he observes, how diligently he keeps his records, and how accurate he is in his tabulations; and so has he made his article fresh for the eighteenth time, an appropriate closing chapter of the annual, with others, it is hoped, to follow during many a future year. The "Rosarian's Year Book" is well worth its shilling.

SYRINGING VINES.

DIRECTLY the new year is ushered in many gardeners commence operations in their vineries for the successful termination of the fruit crop. I am well aware of course that many houses are closed preparatory to the Vines starting into growth in November. It is, however, in a more general way that I name the month of January for my purpose in bringing before the great body of Grape cultivators the question, Is the syringing of Vines necessary? I answer the query with a negative. I know it is the common practice of many growers to syringe the Vines twice daily until the bunches are plainly visible in some cases, and in others until the Vines are actually in bloom.

It is a generally understood notion that the syringing of the dormant rods excites them into growth, and induces them to break stronger. For the last three seasons I have ceased to syringe Vines at all until after the fruit has been cut. My reason for so doing is that equal success can be gained by the non-syringing practice as by the reverse. The time saved then is a consideration, if nothing else. It is not the external wetting of the Vines that creates activity in the sap vessels, it is the state and health of the Vines themselves. If they are in proper condition new growth will push as freely as though the canes are continually moistened. I would advise, however, that the atmosphere in the house be maintained in a somewhat humid state by moisture from the evaporating troughs, and by the occasional damping of the paths, walls, and borders of the vinery. An atmosphere free from aridity, but not so heavily laden with moisture as many persons deem necessary, is the condition under which Vines make the best progress. To those who have not previously tested the non-syringing plan I would say, Try it without prejudice.

Vines infested with mealy bug will be favoured somewhat in the non-syringing plan. If after washing the rods they are coated over with some mixture, such as sulphur and clay, with a view of smothering the pests or their eggs, continual syringing of the rods loosens the compositions employed, making cracks for the escape or inlet of this pest.—E. M.

* Bemrose & Sons, Derby and London.

BEGONIA FRÖBELI INCOMPARABILIS.

At the second of the November meetings of the Royal Horticultural Society, held in the Drill Hall, Westminster, Mr. J. T. Bennett Poë, Cheshunt, staged a plant of this hybrid Begonia, remarkable alike for its flowers, the time of their production, and the leafage. It is the result of a cross between the well-known *B. Frœbeli* and the lesser known winter-flowering *B. polypetala*, of which the former was the seed

this feature alone the plant would be well worthy the extended attention of growers, but combining with that beautiful flowers it becomes a veritable acquisition, and cannot fail to be popular when the stock has increased and the plant is widely known. The woodcut (fig. 5) depicts the character of growth and the manner in which the flowers are borne. The Floral Committee of the R.H.S. showed its appreciation of *B. Frœbeli incomparabilis* by according to it a first-class certificate, an honour that was justly deserved.



FIG. 5.—BEGONIA FRÖBELI INCOMPARABILIS.

parent. In appearance there is a remarkable resemblance to *B. Frœbeli*, both in respect of the leafage and the inflorescence, but dissimilar to it in its time of flowering, which has apparently been governed by the pollen-bearing parent. The flowers, borne on long, upright footstalks, are much larger than those of the type, in fact many of them measured decidedly over 3 inches in diameter. The colour is an intense scarlet crimson, which will always render it welcome at the dull period of the year when the blooms are produced. Descending the 2-feet long footstalks we are struck by the remarkable foliage, of which one leaf measured 18 inches in length, with a breadth of fully 12 inches. For

FLOWERS FOR CHRISTMAS.

(Continued from page 569.)

CALLAS (*Richardia Æthiopica*).—These are exceedingly useful, and appropriate for Christmas and the new year. If only a few they add to the variety, and make an agreeable change; in fact every endeavour should be made to obtain some of their commanding spathes which, with their own foliage, can be used most effectively in many positions. The spathes, as well as the foliage, last well if secured in wide-necked bottles filled with water and held in position by a little moss. When used in this way the bottles can be readily bidden, which would not be so easy were 7 or 8-inch pots employed. When the stock of these plants

has been planted in the summer, lifted in September, and placed into various sized pots, it is not so easy to have many plants in flower by Christmas. Unfortunately, they do not bear undue forcing, in fact they strongly resent it, and if overdone the spathes are often deficient in colour. They certainly can be forwarded by gentle warmth and a more confined atmosphere than accorded the main stock, but under these conditions the foliage soon draws up weakly. Some years ago we raised a large number of plants in boxes under cool treatment from small bulbets, and kept them in small pots throughout the following winter. The plants were potted the next season and stood outside. They were afterwards placed in 10-inch pots, and, having about 500 plants, we were rewarded with a grand display of spathes.

The best plan perhaps to insure flowers at this period of the year is to train the plants to make their growth somewhat earlier in the season, which may be accomplished by keeping the early flowering plants inside until they have completed their growth, then turn them out to rest. The plants are rested, before the foliage of later plants dies down, and display signs of commencing growth. Just as they start a rich top-dressing should be given, and the plants liberally fed with stimulants as they root and their growth is developed. Another matter requiring attention is to house the plants sufficiently early so that they run no risk of being checked. To keep Arums healthy and strong they should be turned out and repotted every second year.

POINSETTIAS.—These are too valuable for the purpose we have in view to be left out or neglected. A few well-developed bracts rising out of a group of *Adiantum cuneatum* or *Asparagus plumosus* is really charming. By gas or electric light they are even more imposing. There is a warmth and attractiveness about them when suitably used on the dinner table; their brilliancy is increased by the greenery and the more delicate hue of *Calanthe Veitchi* when used in conjunction. It is true everyone cannot develop the bracts of these plants to the best advantage, because they require a temperature of 65° to bring them quite to perfection. Poinsettias are easily raised from the ripened wood of two joints inserted in thumb pots, as nearly every one will root and grow. Firm, sturdy growth is the object to be aimed at, but on no account should the roots be brought to a standstill, or the foliage falls. Care is needed in the early autumn not to excite the plants into fresh growth, and when the bracts are produced they should be carefully inured to cooler treatment until they can be removed to an intermediate temperature or the conservatory. In the latter they need careful watering, and cold draughts must be kept from them.

CARNATIONS.—These are very popular indeed just now, and with many the favourite flower. It is easy to talk and write about having plenty of these in bloom, but to do so requires care, forethought, and abundance of room. It is useless to think of starting with a few dozen plants and to anticipate twelve months hence being able to cut some hundreds of blooms. Those who entertain these ideas will most probably be doomed to disappointment. Carnation *Marguerite* certainly fills in a gap, and is exceedingly useful; but it is all nonsense to say that, if kept cool, they will flower all the winter. Under such treatment they will do nothing of the kind, unless those who accomplish this feat have discovered some method unknown to the majority of growers. In the first place it is unnatural for them, or any other Carnation, to flower profusely under cool, airy, winter treatment. The flower buds go blind when the temperature is too low, while to all appearance they look promising.

These plants can be kept in good condition when not too forward, and with increased sunlight in February will bloom profusely. Last year under greenhouse treatment we had blooms up to Christmas, then they ceased to flower until introduced into gentle warmth. Growth again commenced, and thousands of useful sweet flowers were the result. The plants from the time they are placed into their flowering pots should be grown outside until the approach of frost. Then they must be placed in a light, airy house for a time, gradually providing a little warmth as the days decrease in length and the sun's power becomes less. If not too cramped at their roots they will commence blooming when placed inside, or soon afterwards, according to the time the flower spikes were removed, and continue to do so throughout the winter months. It is certainly wise to keep all the later plants in a cool temperature for early spring flowering.

Miss Jolliffe, to flower freely through December and January, must have gentle warmth, but the flowers will be paler in colour than when they unfold under more natural conditions. The same may be said of tree kinds generally. It certainly does the plants no good—in fact, it ruins them; but where flowers must be had provision has to be made for a sacrifice of plants by raising young stock to replace them. The character of several border kinds may be so changed by culture under glass that when layered early in frames they push up their flower spikes in early autumn, and yield by gentle forcing a good supply of flowers. The tendency of some border varieties is to push up in autumn if the layers are strong and early. By gentle forcing Carnations may be obtained in fair quantity during the dull sunless days of winter, and they are worth every effort that must be put forward to produce them.

EUPHORBIA JACQUINIÆFLORA.—Some cultural care is needed to grow this useful plant well. Propagation is by no means simple, but when cuttings are rooted the plants are easily grown, provided they are carefully watered. The object should be to produce strong vigorous growth, which can be obtained in 3 and 4-inch pots. When the plants are in active growth they must be fully exposed to the sun to thoroughly ripen and harden their wood, as on the thorough maturation of the growth depends success or failure in flowering. The plants should be grown upright for a time, and not allowed to arch naturally too

early, or they are liable to break again into growth just where they bend. These plants when well grown are not showy, nevertheless they are effective in any arrangement of plants and flowers. If used in the conservatory they should be kept rather dry, or they are apt to damp off altogether. How light and graceful they are when hanging out of large epergnes on the dining table, in conjunction with a few *Calanthes*, the flowers of *Eulalia*, and arching sprays of *Asparagus plumosus*!

PRIMULAS.—First for usefulness we must place the small and insignificant-looking *obconica*. Young plants from seeds raised annually in the spring are best, and from these abundance of useful flowers for small vases can be obtained from October, or earlier, until May. They may be easily brought into flower by gentle warmth. Our main stock of plants has cool greenhouse treatment, and are introduced into gentle warmth as required. They are extremely useful in from 3 to 5-inch pots for room decoration, and are equally effective as a conservatory plant. In large, rather dark houses, where the Chinese varieties prove almost useless, *P. obconica* continues to flourish and flower.

The old double White Chinese *Primula* is too useful to be ignored, and where plants can be accommodated they should be grown. The coloured double and semi-double kinds are also useful for small glasses and table decorations, the brightest crimsons being especially so. The single varieties are also useful in many positions for home decoration. Dwarf sturdy plants in 3½-inch pots with one stout bold truss rising out of the centre, are very pleasing for dinner-table decoration. Supposing we have a small table with three or five plants of *Pandanus Veitchi* well coloured down the centre, in silver cups, the surface mossed, or the pots covered with pink crinkled paper, eight or twelve White *Primulas* can be arranged equally on each side. Crimsons for a change can be used with narrow-leaved *Dracenas*, such as *superba elegantissima*, in place of the *Pandanus*. The single blooms, and even the trusses, are useful for table decoration.

FREESIAS.—The culture of these is much better understood than was formerly the case, and they must be classed amongst choice flowers for Christmas. Their delicious perfume will always make them favourites. One or two plants well grown in 5-inch pots scent a room. They are worth using with their own foliage, and can be arranged to hang out gracefully from large vases. To have flowers by Christmas without unduly forcing them imported bulbs should be obtained as early as possible, placed thickly in 5-inch pots, stood in a frame, and covered with cocoa-nut fibre refuse. They may there enjoy cool treatment close to the glass on a moist base until it is certain the flowers have formed, when they can be gently forced at first, warmth being increased after the flower spike is distinctly visible. What a difference in the size and price of imported roots to what was the case fifteen or twenty years ago! At the present time they are scarcely worth retaining after they have flowered. They certainly increase rapidly, and the roots, after forcing, yield useful flowers if sown thickly together in boxes, and frequently, if allowed time to grow naturally, the roots increase in size. They need care after flowering, and thorough ripening.—WM. BARDNEY.

(To be continued.)

MODERN GRAPE GROWING—ESTIMATE OF VARIETIES.

(Continued from page 574.)

IN estimating the value of certain varieties of Grapes we must consider for what purpose they are required. If grown specially for market, size and a fair amount of colour are the only points to take into consideration during the present fashion. But it by no means follows that we should plant all Colmans in a private establishment. There are still a few people who know what flavour is, and would perhaps prefer a rod or two of West's St. Peter's in their late vineyard.

It is natural for a gardener to be anxious to produce as good looking Grapes as his neighbour, but when his employer prefers Lady Downe's, Mrs. Pince, or West's St. Peter's, these varieties should be grown as well as it is possible to do them. Personally I consider Gros Colman to be both the best and the worst late Grape. Grown as it is in a few establishments, where it has plenty of heat, but not too liberally fed, is kept free of insects, and not overcropped, it becomes, after the new year has set in, not only an object of the greatest beauty, but it does not disappoint the palate. Unlike most late Grapes it has then a thin skin, which dissolves in the mouth like that of the best Hamburgs, and it is full of juice, with no trace of earthiness. It is the best of all winter Grapes for sick persons and invalids, and is much recommended by physicians.

Strangely when this Grape is grown in a cooler temperature those of its berries which do colour become a denser black than when grown in more heat, but the flavour is never so good, the skin is thicker, and the berries are hardly ever so large. Colmans less than 4 inches in circumference (they ought to be 4½) are not properly developed, and cannot be good; but how many scores of tons do we see in the shops not more than 3 inches, and of a colour something between green and mahogany. It is these Colmans that give the Grape a bad name, and I am astonished that anyone should waste his money on them, for the Almerian and other cheap foreign Grapes imported in barrels are infinitely superior to such rubbish. One might suppose without experience to the contrary that fruit of this quality would have no effect on the splendid examples produced by our best growers, unless it were to enhance the value of the latter. If there were nothing but

the two qualities it would not do so, but there are so many intermediate grades.

Within the last four years I have known Grapes which were not of the worst quality, delivered in this neighbourhood, after a hundred miles journey, at 4d. per lb. while others were being sent away at 5s. The effect is that the 4d. Grapes bring the value of those which ought to be worth 1s. down to half that price; these, in their turn, act on the next grade above them, and so on up the ladder till the 5s. ones are reached and depreciated accordingly. Purchasers seeing fairly good-looking fruit marked up for retail at 2s. per lb. will hesitate to give 6s., unless for very special occasions.

What then is to be done? Shall the grower of the first quality fruit give up his higher aims and produce a greater quantity of inferior stuff to make up for lower prices? Many have already done so; and I am of the opinion that the general quality of Grapes in the market is not now as good as it was a few years ago. This is not for want of skill, as is proved by the greater number of good exhibits at every show in the country, but it is because fair prices are difficult to obtain for even first-rate produce.

I believe, however, that the thing will right itself. The only chance the grower of the 4d. Grapes has is in an early clearance, but the rate this class of growers is multiplying will in a short time make early clearances difficult, and a few score tons of rotten fruit, even of the value of only 4d. per lb., in an establishment, will tend to damp the proprietor's ardour.

The turn for the grower of good fruit commences with the new year, and then for three months he has it very much in his own hands. There is not much else in the way of good dessert fruit besides Oranges and Bananas between this time and April, when forced Grapes make their appearance; but even these are not equal to well-preserved old ones, and as people are then beginning to want a change from Grapes, both have to give place to well-grown Strawberries.—WM. TAYLOR.

(To be continued.)



NEW SINGLE-FLOWERED CHRYSANTHEMUMS.

MR. AGATE writes me—"A mistake has crept into your notes *re* single-flowered Chrysanthemums, which you described in the Journal of December 19th, 1895, in which you state the following varieties were raised by me—J. Arter, Harold Stallard, Miss Josephine H. Stallard, T. Suter, Mrs. Vose, George Rose, and Miss Gertrude Parker. They were raised by Mr. H. J. Jones, Ryecroft Nursery, Lewisham, and sent to me on trial. You, I know, like to give credit where due, therefore I thought you would be glad of this information." I need hardly say I am pleased to render to Mr. Jones his due, and congratulate him on his success in raising such charming varieties of this popular flower.—E. MOLYNEUX.

BEAUTY OF TEIGNMOUTH AND PRIDE OF MADFORD.

MY thanks are due to Mr. Foster for the information regarding the description (page 10) of these Chrysanthemums. I am all the more convinced now that few persons have them distinct. What I took to be Beauty of Teignmouth is, from Mr. Foster's note, evidently Pride of Madford in formation, but not quite correct in the description of the colour as defined by Mr. Foster.

Much the finest blooms I have seen were in Mr. Agate's nursery on the day of the Havant show in October. This he had for Beauty of Teignmouth. The flowers were three-parts developed, the young unfolded florets in the centre were incurved, but those fully developed were quite flat—truly reflexed. The colour was most striking, an intense purple maroon on the surface, the reverse of the undeveloped florets being white with deep purple stripes. The former, I find, is what I noted at the time, as I was careful to observe all the details of this flower. In no sense could it be termed an incurved bloom. Growing side by side in Mr. Jones' nursery a week later I could detect no difference in the blooms from plants growing under the two names. He, I believe, procured both from Teignmouth.

Originally they were sent from Australia by Mr. Hannaford, so my information goes. From other sources, too, I hear the greatest difficulty is experienced in distinguishing them. It seems to me to be a case of doubt, and, as is usually the result in all such cases, the most deserving—growers will quickly find which it is—maintains its position, while "the other must go to the wall."—E. MOLYNEUX.

"THE GOLDEN FLOWER."

THIS was the title of a paper read at one of the meetings of the Torquay District Gardeners' Association by Mr. F. C. Smale, Hon. Secretary of the Association, before a large and interested audience, and we have pleasure in reprinting it from the "Torquay Times."

Mr. Smale, in the course of his paper, which gave evidence of considerable research, said that in adopting the title of "The Golden

Flower," he had, of course, simply translated the Greek—*Chrysos Anthemos* into English, this being the derivation of the name "Chrysanthemum." But, as they knew, the Chrysanthemum was by no means exclusively yellow; pink, crimson, white, and all the intermediate tints were represented. Those, however, were the result of cultivation. The original colour was yellow, and hence the generic name.

The Chrysanthemum, as they saw it to-day, only represented one species—namely, *Chrysanthemum sinensis*; in infinite variety it was true. They all knew the annual sorts, which formed another species, whilst the Marguerite of the Paris and Covent Garden markets could, with the modest Ox-eye Daisy of the English meadows, claim kindred with such flowers as those in the vase before him. He proposed firstly to give a short account of the Chrysanthemum in its Oriental home, and then to deal as briefly as he could with its culture and general management in England.

HISTORY.

The Chrysanthemum, whilst not boasting of such a romantic origin as some of the Orchidaceæ, possessed a history both ancient and respectable. Japan was popularly considered to be its home, and in fact it was known as the Imperial flower of that country. It was, moreover, used in heraldic form as the crest and official seal of the Mikado, being probably adopted as such in the twelfth century. They would observe that it bore little resemblance to a Chrysanthemum as they knew it, but Japanese art was not always realistic. The Mikado did not by any means hold a monopoly of this design. The crest of the Prince Owari was founded on the Chrysanthemum, and the badge of the Japan Society in London bore a close resemblance to the Imperial crest itself. It escaped infringement of copyright, so to speak, by adopting twenty-four flutings or florets, instead of the Mikado's sixteen. What would be the result in the event of that difference being omitted he could not say, but doubtless the punishment would fit the crime.

ART.

In a beautifully illustrated work on "The Ceramic Art of Japan," to which he had been allowed access, he found representations of Kiku—pronounced, he believed, Kychonophane—or Chrysanthemum ware, on which the Kiku-mon or Chrysanthemum crest appeared in various colours, bright green and sky-blue included, and therein, he doubted not, lay the origin of the blue Chrysanthemum fable, to which he might refer again. Sixteen fluted basins were also made, forming a representation of the crest. Since writing the foregoing he had read another and very different account of the origin of the imperial badge. Mr. G. C. Haité, a member of the Council of the Japan Society, attributed it not to any floral design, but to ancient sun worship. There seemed to be something in this, as the crest of one ancient Japanese family represented what was undeniably a sun appearing above the horizon. The fact remained, however, that whatever its remote origin might have been, the imperial crest was to-day considered by the Japanese themselves to be the Chrysanthemum in heraldic form.

SENTIMENT.

The flower was known in Japan as the "flower of happiness," and the ninth day of the ninth month, which was named "Kiku-dsuki," was celebrated in its honour. The Japan Society was formed on that day. On these occasions the Japanese plucked the petals from the flower and threw them into their "saké," or rice wine, before drinking it, hoping thereby to insure protection from evil during the ensuing year. According to Sir Edwin Arnold, the Japanese occasionally named their daughters, "O Kiku San," the Honourable Miss Chrysanthemum, much as we called our children Lily, Rose, or Daisy. The flowers were also used for jellies. In Japanese armour they found another adoption of the Chrysanthemum as a floral design. It was seen around the ventilating space at the top of the helmet, and was known as the Kiku-zu, or Chrysanthemum seat.

ORIGIN.

In spite of all this, however, it was almost certain that China and not Japan had the honour of being the actual home of the Chrysanthemum, and, indeed, Professor Anderson considered that the Chinese even to-day were before the Japanese in their admiration for the flower. No less than 2300 years ago the great Chinese philosopher, Confucius, alluded to "its yellow glory," and in later years, about A.D. 365, a Chinese poet raised its culture to such a pitch of excellence in a town named Tong-Liu-hsien, that it was called the "Chrysanthemum City." References to it were found in several old legends, the earliest of which dated back to 947 years B.C., when it was said that a certain youth, by means of mystic inscriptions on Chrysanthemum leaves, caused people in his vicinity to attain to extraordinary ages—even 800 years. Some of them might be living now, but Chrysanthemum culture in England was not, he thought, conducive to longevity, especially when the blooms were "damping" badly. The Chinese also used an infusion of the blooms as an eye water.

In Japan the Chrysanthemum could only be traced back to A.D. 1186, when the swords of the Mikado were decorated with its flowers. They cited 230 shades of colour, including yellow, purple, white, red, pink, and russet. There was an Order of the Chrysanthemum instituted by the Mikado, and only conferred at present on about twenty people. Prince Bismarck was, he believed, the only European, not of Royal blood, who possessed it.

This was perhaps as much as they would care to hear of the Chrysanthemum at home. For the bulk of the preceding facts he was indebted to Mr. Arthur Diosy (Vice-Chairman of the Japan Society), Mr. Douglas

Sladen (well known as the author of "The Japs at Home," and other works), Major Grahame (late of Torquay), and others. The designs, with which his paper was illustrated, had been kindly prepared by Mr. Shelly, one of the Vice-Presidents of the Society.

In 1820 only twelve sorts of Chrysanthemums were known in England. To-day the National Chrysanthemum Society's catalogue contained the names of something like 4000 varieties, and it was by no means a complete list. The first exhibition took place at Norwich in 1830, when nine varieties were shown.

CULTURE.

In dealing with the culture of the plants grown on the "big bloom" system, Mr. Smale said sturdy cuttings or slips should be taken from plants which had been in the open ground, and subsequently potted and placed in a cool house in December. This plan could not be adopted in the case of absolute novelties, for the reason that many new varieties did not show themselves at their best until two or three years after their introduction into commerce. They were what were termed over-propagated. A notable instance of a novelty being over-propagated was found in the once famous, but now almost extinct Mrs. Alpheus Hardy, the first of the hirsute, or hairy section. The original plant was bought by a firm of American florists for £300 (probably the highest price ever paid for a Chrysanthemum) from a lady who had received it from a friend in Japan. The florists made the most of their bargain, for every joint was rooted, and in a very short time 35,000 cuttings were ready for distribution.

The best time to commence rooting cuttings was in December, and thence to February; but after that, with one or two exceptions, they would not give large blooms. He preferred rooting them in a warm greenhouse in a light sandy soil mixed with a little peat, which held the moisture. Water and shading were necessary to prevent flagging. New and scarce varieties were the most difficult to propagate, and the time of rooting greatly varied. As soon as rooted the plants should be potted in rich soil and kept in rather a close atmosphere, then gradually hardened, and in April stood out of doors in a sheltered position. As they were potted they should have richer soil, and great attention should be paid to this in the final potting in June or July. After dealing with the manurial requirements of the plants Mr. Smale dwelt exhaustively with disbudding, the best methods for destroying insect pests, damping, and the dressing of blooms for exhibition purposes.

SECTIONS AND NAMES.

Chrysanthemums were divided into some half dozen sections, the incurved, Japanese, reflexed, Anemone, Pompons, and singles. The Japanese were divided into reflexed and incurved; the hirsute, or hairy varieties, and the eccentric, or unclassable varieties, such as the spider, the threaded, and other similar curiosities. There is, or was, one of the spider varieties in the Mikado's private garden, which required two rows of rings to support each bloom. The tubular-petalled variety known as Good Gracious! was appropriately named, as it was quite a unique flower, and attracted attention at once. Some of the names of Chrysanthemums were of appalling length, and required a very large label to hold them. For instance, the modest bloom before him was afflicted with the name *Souvenir de L'Exposition de Grenoble*, which was to say, "In memory of the Grenoble Exhibition." One could not help wondering why the date and a few other particulars were not added. After quoting other curious names, and explaining how they were abbreviated, the lecturer proceeded to observe that the French were the greatest offenders with regard to Chrysanthemum nomenclature, but the Americans were wiser and went in for such names as *Kioto*, *Creole*, *Latest Fad*, *Hallowe'en*, *Parting Guest*, and, of course, *Trilby*.

NOVELTIES.

Novelties were obtained in three ways—by raising seed, by perpetuating or "fixing" accidental "sports," and by raking up some ancient, forgotten variety, and giving it a new name. Seedlings up to within a few years ago, were almost exclusively raised in France. Then after the "Mrs. Alpheus Hardy" bloom to which he had referred, the Americans took to importing seed from Japan, and lastly, a few English growers tried their hands at it. By far the most successful of these latter was Mr. C. E. Shea of Fooks Cray, who saved his own seeds, and to whom they owed many very beautiful varieties. In America, Mr. Spaulding of Orange, New Jersey, Messrs. Pitcher & Manda of New York, and Mr. E. G. Hill, were amongst the most prominent. The American standard was not as high as ours with regard to show blooms. In that country the prevailing style was to show the flowers in vases, several flowers of a variety together.

None of these raisers had as yet produced a blue Chrysanthemum, nor did he think they ever would. The nearest shade to blue which he thought would be obtained was found in a variety named *Creole*, which he grew for the first time last year, having received it direct from America. They occasionally read romantic stories of a blue Chrysanthemum being guarded jealously in Buddhist monasteries, and a sensational romance on the subject with the title of "The Quest of the Blue Chrysanthemum," might be popular. The discoverer of the realisation of those visionary stories might be sure of a huge fortune, should he be able to introduce the blue Chrysanthemum into commerce.

SPORTS.

Sports were accidental growths, which, without any apparent cause, produced blooms of a different colour to those on the original plant. Cuttings were taken from these shoots, and if, when grown into plants they

bore blooms of the new colour, "the sport" was said to be fixed, and a new variety obtained. They were, however, not always distinctive enough to be of value. In conclusion, Mr. Smale said in writing the paper he had recognised the fact that the audience for which it was intended would include those who already knew something of the Chrysanthemum from a horticultural point of view, and those who only knew it as a beautiful autumn flower. His aim had been to interest both sections, and he sincerely trusted that he had not altogether failed to do so. Mr. Smale was heartily thanked for his highly interesting and instructive paper.

STRAFFAN GARDENS, KILDARE.

PICTURESQUE Straffan; quiet, restful, and satisfying. To my mind I always see it at its best, but the friendly hand which gives the grip of welcome as the first down train glides into the little station has previously indited the pitiful tale, "Nothing to see; all cut down; 12° of frost." The implied hint of a long-postponed visit is unheeded. I know him of old, and on some points we agree to differ. This is one. Oh, stop your jehu, my trusty fren'; that view from Straffan Bridge, marvellous in the glory of a dying year; a gentle slope of gorgeous tints from the lofty Beeches to the still waters, broken here and there by masses of Dogwood fringing the informal banks. It is, of course, the season for such sights, but there is a secret in this matchless scene locked in two bosoms possibly—that of the Liffey and that of my friend, for the ministering hand has been here, which, combined with the damp breath of the river and that 12° of frost, have produced the effect. "Ah, but you should see it against the rising sun," says "Nothing to see." I spare his feelings.

Somehow the pleasures of Straffan are unconsciously interwoven with the welcome. From the porch of F. B.'s house it beams again, just tinged with a little anxiety as to whether we shall stand all day pitying the venerable Rêve d'Or, whose golden dreams were rudely shattered by the frost king last winter. There are cuttings of the ham species inside to discuss, and did ever cuttings of any kind take such deep root in a hungry medium before? I throw not. It is not surprising that the only daughter of the house should be labelled *Rosa*. The only wonder is that the boys escaped being *Vandas* or *Cattleyas*, so impregnated is the air with the purest of human pleasures. A spray here and there, negligently arranged in vases, display to perfection a few bits from the outer world, for the caring hand is a sparing hand, corrective, too, if necessary—at least, so I infer from a little reminiscence of years ago, when a delinquent of the "James de Plush" order was caught full handed.

The good things planted by the boys on the low wall opposite the house have grown apace since last noted and mentioned in the notes. Looking at this ideal gardener's home one can but imagine the tender memories of it these youngsters will carry with them into a ruder world. Before leaving this wall garden, *Edraianthus pumilus*, *Campanula Zossi*, and *C. garganica hirsuta* are noted as being happy in the position. Bunches of coral-red berries on a free-growing shrub are striking. "What is it?" asks the learner. "Oh," says the learned, "*Cotoneaster rigida*. Not half enough known." "I am glad to hear it. It robs ignorance of humiliation." Near this *Romneya Coulteri* is developing into a bush, and a thousand things we then, and here, pass by have waxed and waned, and are now at rest.

But time flies, quicker here than elsewhere I think. The first house we enter is a temperate one, and always gay with the brightest and best of its class. Chrysanthemums, of course, dwarf plants of such varieties as *Mdlle. Elsie Dordan*, *Miss Rose*, a pretty single, with a few choice Japs and incurveds (the bulk are housed elsewhere), do not monopolise or swamp the attractions of minor things. Amongst the latter some plants of *Nerine coruscans* major are particularly brilliant. Whilst the soft, pale mauve blossoms of *N. crispum* are not less attractive. *Begonia Octavie* is purity itself in its virgin white.

Warmer regions succeed this, and unusually vigorous plants of *Impatiens Hawkeri* are decked with bloom. *I. auricoma* is also well cropped with its quaintly formed orange blossoms. *Eucodonia nægeloides lilacina* is very pretty and useful, having the character (but not looking it) of standing well as a decorative plant. *Dichorisandra thyrsiflora* in bloom displays a charming bit of blue. Arranged in the Fern house is a batch of *Saintpaulia ionantha*, varying in tint from pale lilac to deep blue; evidently this is one of those novelties which has come to stay. Through a haze of greenery in the orangery bright blossoms of *Fuchsia corymbiflora* are revealed, and *Vitis vinifera purpurea* is a most distinguished looking Vine.

There is, indeed, but little time for more than a passing glance as we walk and talk, for the cream is yet to come. It is a way they have at Straffan of giving you the goodies at the last—these are the Orchids, and what better dessert could one have on an autumn day than a feast of *Cattleya labiata*, *C. Bowringiana*, and *C. pumila*, and these in their various degrees of good, better, best? My old friend flatters himself, like Dickens' Major Bagstock, in being cute, and wins many a prize amongst unproved imported pieces. Examples of this are not wanting in the aforementioned *Cattleyas* nor in the cool house adjoining, where a particularly fine variety of *Oncidium Forbesi*, with rich brown varnished flowers, is admired. The character is well revealed in a *Rhododendron* of the *Jasminiflorum* type named *Brilliant*, in the cool Orchid house. A collection of *Odontoglossums* looks happy. Just a "leetle" wet for the season, I remark. "No, they're all right," says he of the roving eye, which nothing can escape; for, a moment

previous, a sudden dive into a corner and a hasty plunge into a tub had corrected some plant in a basket just a "leetle" dry. Here I must, for a moment, return to the Fern house to speak of a marvellous adornment on the end wall of Begonias of the Rex tribe, perfect leaves luxuriantly clothing the entire gable end. *Davallia parvula* and *Rhipidopteris peltata*, dwarfs of the Fern world, flourish under bell-glasses. These are specimens in their pigmy way.

Seed pods are hanging on the *Lapageria rosea* in the Heath house. These have been figured and described by Mr. Burbidge in the "Field." Did I ever see any before? I do not recollect doing so, but once flowered a batch of seedlings under my charge, and they varied considerably in character from the type. Back again in the cool Orchid house I am sniffing in the delicate perfume of *Oncidium tigrinum*, when a peremptory message from the "missus" is accompanied with the inquiry, "Do you know what time it is?" Know! No, not we; but I know it is considerably later, and that we are considerably refreshed when we again set forth to do the grounds.

Near the kept grounds, by the "river's brim," due advantage has been taken in the disposal of many things suitable to the position; such things as strengthen the hand of Nature, which has here done so much. Clumps of Bamboos are effective, but most of the noble foliage plants have sunk to rest under the protection of their withered leaves. Respecting a fine plant of *Rosa polyantha* (or *microcarpa*) on a wall, I am indebted to Mr. Bedford for further information. He says, "The plant in question is on its own roots, trained up a 10-foot wall, made secure at the top, and then allowed to grow and weep over at its own sweet will. The one year's growths in flower are from 8 to 12 feet long." But the damp rises from the river, and the night falls fast. It is, indeed, far advanced ere I am homeward bound laden with pleasant memories of a late autumn day spent where there was "nothing to see" by—ONE WHO SAW.

JAMESIA AMERICANA.

ALTHOUGH perfectly hardy out of doors, and amongst the earliest of the North American plants, *Jamesia americana* (fig. 6) is admirably adapted for forcing. It may be lifted and potted in the autumn much in the way recommended for *Rhododendrons* and similar plants, or kept in pots and transferred to the greenhouse early in January. It will flower early in March, and extend over April, in mild seasons sooner. As it never fails to bloom, and seems quite indifferent to either wet or dry seasons, it is a valuable acquisition, and should be extensively grown.

The plant grows naturally of a rather straggling habit, but this may easily be remedied by pruning. The shoots are stout and woody, and are much-branched. The flowers are in large corymbose heads, and are borne laterally, also opposite, on every joint, and smaller than the lateral ones. They are pure white and slightly fragrant, lasting a considerable time in a cut state. The leaves are borne in opposite pairs on the young shoots, stalked, oval-shaped, and evenly and sharply serrated. They are of a fine light green colour, and covered with a fine silky down, which makes them quite silvery underneath. As it rarely if ever ripens seed in this country, the best way to increase it is from cuttings, which should be placed in cool frames in a shady position, and watered very sparingly until rooted.

As a low-growing shrub it is unequalled in early summer, its pure white flowers having a peculiar fascination where the run on white cut flowers is large at that season. Equally useful also as a tall shrub for the background, it is exceedingly floriferous in either position. The flowering season in the open air extends over May and June, and the flowers are produced in profusion.

ANTHURIUM SCHERZERIANUM.

ANYONE having seen a houseful of well-grown plants of *A. Scherzerianum*, during their season of flowering, with their bright and showy scarlet spathes standing out boldly in contrast with their dark green foliage, must have admired them. It is one of those plants we cannot afford to be without, as the lasting properties of its spathes are such as to make it invaluable as a show or decorative plant for at least four months of the year. Those who remember the first plants of this Aroid sent out from the nurseries can see the marked difference both in size of spathe and foliage, being both broader and longer. During the past few years many forms have been obtained by hybridising, some of which are beautiful, yet the scarlet-spathed type still holds its own, and will continue to do so. The plants are not difficult to grow, but will show themselves to best advantage where their requirements are understood, and will amply repay any extra attention that may be bestowed on them. Many of the small-spathed varieties seen in private establishments are worthless compared with the finer varieties, and the former might in many instances produce larger spathes and foliage by a little more liberal treatment. I have grown a large number of plants for years, and have never failed in having a fine show during the summer.

The best material in which to grow them is good sound fibrous peat

and sphagnum, rough charcoal, with a good sprinkling of dried cow manure, and a dash of sharp sand to keep the compost open. This must be of such a nature as to keep sweet for at least twelve months. The plants soon lose their vigour if the material becomes at all "pasty" and retains moisture to an excessive degree. I prefer potting in August or the beginning of September, when most of the spathes are dying. Some of the plants require the whole of the potting material renewed. The plant is very accommodating in this respect, and always grateful for having its roots well washed and every particle of old soil taken from it. Of course this must be done with care, so as to break as few roots as possible.

Clean pots half filled with crocks should be taken, a little of the rougher material placed on them, the plant placed a few inches lower in the pots than before, so as to encourage the emission of roots from the stems, and also to prevent it having a drawn appearance. The compost must be worked carefully amongst the roots, and made moderately firm. When finished the plant will be slightly above the rim of the pot, and the whole surface may be covered with green moss, such as is found growing under trees or on ledges of rock. It is surprising how soon the moss will be filled with roots, they seem to have a great liking for it, and it also stands the application of liquid manure better than sphagnum, always looking neat and green. A good watering so as to moisten the



FIG 6.—JAMESIA AMERICANA.

whole, after potting, is all that is needed for a few days. Some of the plants will be found such a mass of good and healthy roots that it would be impossible to take any of the old soil from them without doing more harm than good; these are simply shifted into larger pots, allowing them to be a few inches lower, and opening out the tufts or stems as much as possible by placing the rougher material between them to give more room and encourage other stems growing from them. It will also give the foliage more room and the plants a larger appearance. They are great lovers of water, and in fact should never be allowed to become dry at any time. The surface moss may be kept moist by syringing even during the winter, when less water is required.

During the spring and summer they delight in a moist atmosphere, and syringing twice a day with tepid water will prove beneficial and keep the foliage clean. When in full growth they need watering liberally; if the pots are well drained, and the compost such as to allow the water to pass quickly through, there need be no fear of the result. They are not too fastidious as to the food they receive in a liquid form, but that made from cow manure is preferable to any other, and may be given continually in a weak state rather than stronger doses at greater intervals. Soot water may be given occasionally with good results.

The insects troublesome to this plant are not numerous. Green fly is the greatest pest, and is found at times in abundance on the under side of the young foliage, where, if allowed to establish itself, will soon suck the juices from the tender leaf and cripple its growth. To have the foliage clean, well grown, and healthy lends a great charm to the spathe by contrast, so that the fly should be disposed of by an occasional smoking, or the foliage carefully sponged so as not to tear or break the young leaf. Sometimes scale appears on the older leaves; this may

easily be removed by the sponge, as the older foliage is strong and leathery. Woodlice should have no quarters amongst the plants, as they destroy the growing points of the roots.

The stock of plants is easily increased by division of the growing tufts at potting time, and if possessed of a good variety it is well to keep up the stock by division. Seeds saved from the best varieties—which appears on the spadix in the form of green dots, and in the course of twelve months assume an orange-scarlet colour—will germinate quickly if sown in a light compost and plunged in bottom heat. When pricked off they must be carefully watered, as they soon damp off at this stage. It is always interesting to watch the progress of seedlings, and it often repays any additional care by giving improved varieties. Some of the seedlings are sure to be worth keeping, having some good quality of spathe or foliage. The broader and longer the leaves the greater the probability of a spathe in proportion, but some of the narrow-leaved varieties are remarkable for the length of the spathe, and these form a pleasing contrast and variety.

The night temperature during the winter need not be higher than 55° to 60°, but no hard and fast line should be drawn, the temperature must be regulated by the state of the atmosphere outside. During the spring and summer they enjoy a high moist atmosphere, 65° to 70° at night, with a rise of 10° by day, and abundance of fresh air. A slight shade during the hottest part of the day will preserve the spathes longer, and prevent the tender foliage being scorched. If the above hints are put in practice they will give good results, and are not written for the benefit of the experienced, but simply for those who are making a start.—GROWER.

SWANMORE PARK.

SEPTEMBER was fast drawing to a close when a long-looked-for opportunity arose to pay a visit to this well-known Hampshire estate, and as the journey had to be done in one day an early start was necessary, thus it was yet early when Bishops Waltham was reached. Before coming to our final destination we had a drive of two or three miles through lanes that left little room for foot passengers to pass the conveyance, so what is done when other vehicles are met is a problem that the writer, a Londoner, felt himself utterly unable to solve. None was met, however, and soon we were shaking hands with the genial Mr. Molyneux at the door of his cottage. Within the air was cool, a direct contrast both to our reception and to then hot weather. But there must be something mercurial in the blood of our host, for no sooner had we become comfortably ensconced than a walk round was proposed, adopted, and undertaken by three men and two dogs.

A man of many parts is Mr. Molyneux. Not so very long ago his name struck terror to the hearts of Chrysanthemum growers, for so good were the blooms he exhibited that no one had a chance of taking a prize against them. But time has changed all that, and as a competitor the Chrysanthemum shows know him no more, honourable retirement being chosen when the laurels were at their greenest. Not that the love of the Autumn Queen has faded; on the contrary, many plants are still grown, of which more by-and-by; but now it is shown as a judge, in which his success is as great as when he was a showman. Committees are ever eager to obtain his services, for they well know that in securing him they have as good a judge of the Chrysanthemum as could be found the wide world over. A man of the utmost probity, he is welcomed and respected by all, and by none, perhaps, more than by his employer, Mr. W. H. Myers, with whom he has been so many years. As evidence, if such were needed, of his ability as a grower, one has but to read his little book, "Chrysanthemums: From the Cutting to the Silver Cup," which, though it has been published several years, and has exhausted eight editions, is still a standard work. Nor is this the only volume that has fallen from his facile pen; but at present we are dealing rather with the gardener than the author.

Not that gardening in any of its many phases occupies the whole of the time of our energetic friend. By no means, for he is a cricketer who has frequently rendered excellent accounts of himself, and thrown dismay through the ranks of his opponents; a cyclist who has done his fifty miles a day, and finished fresh, and who deems twelve miles an hour, when he has the post to catch with matter for the Journal, a mere nothing; and, moreover, a sportsman of local renown, playing havoc among the befurred and hewinged creatures he attacks. The writer had an opportunity of witnessing his skill behind a gun, a squirrel paying the penalty of rendering himself visible to the eyes of a Nimrod and a gardener who has suffered much at various times from the propensities of these animals from eating away the young leaders of trees. This paragraph is somewhat of a digression, so let us now return to our proper department—horticulture.

AMONGST THE FLOWERS.

As floral beauties were at their zenith on the occasion of this visit our first pilgrimage was to the flower garden, or rather gardens, for there is a series of them. Each bed, border, and path, green or gravel, was clean. Weeds were at a minimum, while tidiness is here an art instead of, as in some gardens, a wearying formality. All the beds were cut out of the grass and raised well above the general surface of the ground. No stiff lines of plants were perceptible, but the design so made and followed as to allow each plant to show any individual grace either of inflorescence or foliage of which it might be possessed.

Such a system is worthy of more extended notice by owners and gardeners, as the effect produced commands admiration at all times,

whereas when the elaborate designs often seen are adopted, with the plants placed in rows of so many inches apart, and every shoot removed that may be rash enough to deviate a hair's breadth from the line, the sameness that must result quickly tires the eyes, and the effect is destroyed. We were even refreshed by a carpet bed; but there was only one, and that of the simplest design. Had there been a larger number the eye would quickly have been stalled, as is the palate when it tastes only the same food day after day and week after week. The hideous monstrosities of the so-called topiary art are now rarely seen and probably never practised, the training of bushes amenable to such methods being now practically confined to keeping the plants within due and proper bounds. Is there any reason why formal bedding, akin as it is to "topiary," should not also be consigned to oblivion? Gardeners will soon be turning over in their minds the system of future bedding, and opinions on this subject in the Journal pages would prove of interest to all, and be of great value to the rising generation by the practical hints that would be conveyed.

To note all the combinations made at Swanmore would take several pages, and though no more than justice could then be done, it cannot reasonably be expected that so much space will be placed at my disposal. One bed worthy of note, though extremely simple, was composed of double Zinnias; another had a groundwork of Royal Blue Ageratum, with "dot" plants of Grevillea robusta, while a third had as a centre-piece of *Gymnothrix latifolia*, or, as it is perhaps more frequently called, *Pennisetum latifolium*, with *Veronica incana* beneath and *Lobelia cardinalis* sending up its brilliantly hued spikes here and there. These are only three of the many, but they must suffice for the present, as there are still many other phases of gardening that are equally worthy of attention on this charming Hampshire estate. A noteworthy fact in connection with these and all the other plants seen was the high state of cultivation that had been brought about under the excellent systems followed. Each plant was showing its best points and adding its share in the production of harmony and effect. An edging plant that is very largely used here and which might well be seen more frequently in all gardens, more particularly small ones perhaps, is *Leucophyton Brownii*, of which Mr. Molyneux has formed a very high opinion after extended trials.

Passing to the borders, of which there were several, we came to a perfect plethora of beauty. Not alone was this found in flowering plants, as many were utilised solely for their exquisite leafage, and the two attractions combined in such a tasteful manner formed a lesson at once attractive and instructive. All kinds of plants are seen—annual, biennial, and perennial, the display, of course, lasting over a very extended period of time. Some of the clumps of the perennials are small while others are very large, but all produce strong growths that carry an abundance of flowers, so much so that in the season hushels could be cut and still leave a beautiful exhibition. The colouration, too, of the majority of the flowers was exceptional in its intensity and brilliancy, and may perhaps be ascribed partially to the purity of the atmosphere, and in a greater degree to the soil and finished manner in which it must be worked, for it would be obviously impossible to attain to such results unless everything that could be done to insure health was done by those in charge. There were fine Dahlias, grand clumps of *Physalis Alkekengi*, Marigolds, Zinnias, but I will mention no more or the allotted space will be entirely occupied before the end has been nearly approached.

Beautiful as were the general flowers they suffered decidedly by comparison with the collection of Michaelmas Daisies, which was honoured by a garden to itself. Here were to be found, enclosed by four hedges, upwards of sixty kinds and varieties of this useful flower, planted on wide borders, the whole of the central square being laid down to grass. The turf was green and springy, and served as an admirable foil for the thousands of flowers that surrounded it. The endeavour has been made to make the collection thoroughly representative, and success may be said to have been reached. The planting was evidently done with great care and forethought, for all the taller growing varieties had been relegated to positions at the back of the borders, while the dwarfer ones found homes towards the front. Thus a perfect bank had been formed, and standing at either corner of the enclosure it appeared to be encircled by a mass of flowers, with a break at intervals where some later expanding variety had not yet opened its starry blossoms to the sunshine. There were to be seen such diversity of form, variations of colour and gradations of height as would have surprised anyone who had not previously seen such an excellent collection. That these plants are exceedingly useful everyone is willing to admit, but it is not in all places that they are grown so well as they must be if the best possible results are aimed at. One generally sees a plant here and there, perhaps huddled between others of a different nature, and having scarcely room to grow—under which circumstances Michaelmas Daisies cannot be expected to appear at their best. Procure good varieties, make up a proper rooting medium for the plants, give each one an abundance of room, and they will, by their beauty and utility, amply repay the not necessarily very large outlay. Names I will not give here, as to do justice to them a separate article would be essential.

Of the rock garden little can now be said. It contains large numbers of plants, comprising many gems in the floral world; but all have from time to time received the notice and attention of the master mind and pen of Mr. S. Arnott, so we pass on to other points of equal interest. Almost everyone in the gardening world of Great Britain has heard or read of Mr. Molyneux's grand collections of Sweet Peas, and those who have not ought to have done, for nothing finer could be found in any private garden. Scores of varieties receive attention, and

almost every new one finds its way, while it is yet very young, to Swanmore, where it is made to exhibit its good and bad points in a very striking and emphatic manner. The plants are grown in small clumps—several feet being allowed between them—on good soil, and frequently attain to a height of upwards of 8 feet. Thousands of deliciously fragrant flowers are produced, varying very much indeed in colour. The blooms are used largely for cutting purposes, and of course considerable quantities of seeds are saved for future sowings. These and the Michaelmas Daisies alone were well worth the journey. Changes are constant in these gardens, and preparations were rapidly being made for the planting of a collection of Lilliums, which it was hoped and anticipated would prove of the utmost interest. For their reception a large border was being made in a position that should be admirably adapted to their culture. We must now leave the flower garden for the occupants of the glass structures, or we shall be omitting them altogether.

A GLANCE INTO THE HOUSES.

The ranges of glass are not what may be termed extensive, and quality has to make up for quantity. This it does with ease and certainty, for everywhere the best of health and condition is observable. The plants, comprising many kinds, are clean in leafage—whether they be foliage or flowering in sorts—and the growth generally is of sturdiest and hardiest nature. Special attention is given to those of value from a decorative point of view, those of little service for this purpose taking a secondary position. Though Mr. Molyneux has been and is afflicted with the Chrysanthemum, the fruit, the Sweet Pea, and the Michaelmas Daisy mania, the Orchid mania does not appear to have attacked him, or if it has the fever has not yet reached its height. The only Orchids noticed were some *Calanthes*—not many, probably about thirty-six in all, but they gave great promise of future beauty by the magnificent pseudobulbs they were carrying. Doubtless at the present time they will be in full beauty or perhaps just past.

Though the collection of Chrysanthemums was not at the time under glass, being still in its summer quarters, mention here is perhaps more appropriate than it would have been in an earlier portion of these notes. Needless to say all the plants were in splendid condition and contained all the desirable attributes to the formation of good plants and the production of fine flowers. From flowers seen during the month of November, it is evident that in this section of gardening the guiding hand has not lost its cunning, nor the eye its aptitude for predicting what is to come by the appearance of the stock.

Then, too, there were the Grapes. The Vines are excellent examples of good culture, which yearly produce and perfect highly creditable crops of fruit. The wood showed signs of thorough maturation; the leaves were of average size and exceptional substance; the berries were large, clean, and well coloured, forming bunches of uniform shape and size. There were no perceptible signs of insect visitations, and the whole of the structures, including border, wood, stone, and brickwork, were in that clean condition that cannot be other than conducive to the benefit of the plant life within them.

VEGETABLES AND FRUITS OUT OF DOORS.

With good plants and flowers, both out and in, it was but natural to expect the same in the vegetable and fruit departments out of doors; nor were we disappointed, for the quarters devoted to the culture of vegetables were thoroughly stocked with fine produce. All seasonable crops were there in abundance, and time had evidently been well spent in getting the ground in proper condition before a start had been made with the planting. Peas were particularly noticeable by reason of the height to which they grew, many of the plants well exceeding 8 feet. From these a good crop had been taken earlier in the season, and a last few pods were hanging at the tops of the haulm, from what might well be termed a second crop. Herbs and saladings also find places in various portions of the garden, and apparently nothing that it is desirable to have is missing.

As it would demand a long article and a considerable amount of space to deal fully with the fruits grown at Swanmore these can now have only a passing glance taken at them. Apples, of course, are chiefly cultivated, and the success that has been attained to might almost be termed phenomenal. Good crops of fruit are forthcoming nearly every season, and the trees continue in excellent health, and apparently unimpaired strength. Some are young, others old; but all are alike creditable to their grower. Pears and all kinds of bush and berry fruits are by no means neglected, but were seen either in fruit or past when this visit was paid.

The closure must now be placed on this article without more than a word of reference to the fine ornamental trees we noticed, and the grand specimens of creepers seen on the home of Mr. Myers. Besides these there were other things of great interest, but they must stay for another visit of some of the many writers for the *Journal of Horticulture*, or—NOMAD.

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FRUIT FORCING.

Pines.—*Starting Plants for affording Fruit during the London Season.*—Whatever may be said to the contrary there is no fruit so fresh and pleasing in appearance as British grown Pines. Pines do not always come at the desired time, hence it is sometimes necessary to bring together any plants for the purpose of inducing them to come into fruit sooner than they otherwise would, providing a light house or pit, where they can have the benefit of more heat. This being done, and the heat up in the beds, some of the most promising must be selected from the successional plants, choosing those having high centres, and are quite stout at the upper part of the plant stem. Let these be plunged in a bed, which should stand constantly at a temperature of 90° to 95° at the base of the pots. If the plants are in the least dry water them copiously with weak liquid manure at the same temperature as the bed. Maintain the top heat at 65° to 70° at night, with 5° more from fire heat by day, and 85° to 90° from sun heat. Keep the atmosphere about the plants in a genial and invigorating condition by damping the paths and walls as they become dry, syringing as may be necessary. Neither the damping down nor the watering should be overdone, as too much air moisture induces a plethora of leaves, and a sodden soil destroys the roots.

Figs.—*Early Forced Trees in Pots.*—The trees started in November or early in December having pushed terminal buds should be given the advantage of the mild weather, increasing the mean temperature of the house, as when Figs are fairly started into growth they delight in a good heat, plenty of moisture, and all the light that can possibly be afforded. The glass, therefore, must be kept clean, and air admitted so as to prevent it being constantly covered with moisture. Maintain a night temperature of 55° to 60°, ventilate a little at 70°, losing no opportunity of admitting a little air when the morning promises an increase from gleams of sun, and close sufficiently early for the heat to run up to 80° or 85°. Syringe the trees and walls twice a day on fine days. The trees are weakened and the foliage made soft by keeping them wet during the night, therefore always allow the trees to become fairly dry before nightfall, and be in such condition by day as to favour evaporation to some extent, so promoting assimilation and solidification of the growths. Be careful not to allow the heat about the pots to exceed 70° to 75°, and if the materials are heating too violently turn them as a means of reducing the bottom heat, but it ought to be kept steady, sudden fluctuations, either at the roots or in the atmosphere, often being the cause of the casting of the first crop Figs.

Early House of Planted-out Trees.—This is an excellent means of securing the finest Figs late in May or early in June, and the two best varieties are Brown Turkey and White Marseilles. Planted-out Fig trees should have the roots confined to a border about one-third the width of the trellis, and have a calcareous, loamy soil, on a substratum of limestone or sandstone, to insure perfect drainage. Maintain a night temperature of 50°, 55° by day, and 60° to 65° from sun heat. Trees that have been started about the same time for a number of years push growths with little excitement, but young trees that have not been forced start tardily, and are often given more heat in the early stages than is good for the crop. This ought to be avoided by bringing the trees on slowly, seeking advancement by sun heat more than from artificial in dull weather. Apply water to the border not less warm than the mean of the house, bringing the soil into a thoroughly moist, but not soddened, condition. Syringe the trees twice a day with tepid water, a little warmer than the house, but in dull periods damp the floors and other bare surfaces only, syringing always sufficiently early to allow the trees to become dry or nearly so before nightfall.

Succession Houses.—Proceed with pruning Fig trees as convenient, thinning the wood where crowded, cutting back that which has reached the extremity of the trellis to growths well disposed for supplementing the branches removed. Thoroughly cleanse the house, limewash the walls, adding a handful of flowers of sulphur formed into a paste with skim milk to each pailful of the limewash, as a preventive of spot fungus (*Glæosporium laticolor*). Wash the trees with warm softsoapy water, 3 or 4 ozs. to a gallon, using a brush, and if the trees have been infested with scale use a softsoap solution, one part softsoap to eight parts water by weight, dissolving the softsoap by boiling in an iron pot, and when dissolved and boiling add a wineglassful of petroleum, stirring briskly with a birch switch or egg-beater, so as to form an emulsion and then dilute to 1 gallon by adding boiling water. This, when sufficiently cool, may be applied with a brush. Remove the loose surface soil or mulching, and supply fresh turfy loam, with a top-dressing of bonemeal, three parts; kainit, two parts; and sulphate of lime, one part, mixed, using ½ lb. per square yard, and leaving on the surfaces, or preferably mixing with the turfy loam. Keep the house as cool and dry as possible, merely excluding frost, or not allowing the temperature to fall many degrees below freezing point.

Young Fig Trees in Pots.—If these are wanted for early forcing another season the plants should be placed in gentle heat during this

month in order that they may make and properly ripen their growth and have a due amount of scarcely discernible embryonic Figs set by September, any fruits appearing before that time or even then being removed. The trees must be potted without delay, using rather strong loam, with a fourth of well-decayed manure and a fifth of old mortar rubbish, adding a handful of basic slag to each bushel of loam, draining efficiently, and potting firmly. Train the plants with a single stem, and allow the radiating branches to form the foundation of a good bush or pyramid. The best varieties for early forcing are St. John's, Pingo de Mel, and Brown Turkey, all of which give good results in the first crop under proper management.

Peaches and Nectarines.—*Earliest Forced Houses.*—Trees that have been forced regularly so as to start at the "dead" of winter, do so with great promptitude, and go on splendidly with very little excitement. But to keep them in good progress the night temperature must be 50° or even 55° during mild weather, after the petals are fully expanded, the latter heat being sufficient by day in severe weather by artificial means when the sky is overcast, 65° by day from sun heat, and if the air be mild a few degrees more may be allowed. Syringing must cease directly the anthers show clear of the petals, but damping the floor and border on bright days does good by maintaining a genial atmosphere, practising it in the morning and early afternoon. Lose no opportunity of ventilating freely when external conditions are favourable, leaving a little on constantly at the top of the house, increasing it early in the day, and having it free from 55° and full at 65°. When the pollen is dry choose the warmest and driest part of the day for aiding its distribution by shaking the trees or trellis, or taking a camel-hair brush and applying it to the stigmas. If there be any deficiency of pollen of any variety some should be taken from those that afford it plentifully. Inside borders must not be neglected for water, and those outside should be protected with litter or similar material against frost, avoiding fermenting substances.

Second Early Forced Houses.—To have ripe fruit early in June of such varieties as Hale's Early, A Bec, Stirling Castle, Dymond, Royal George, Noblesse, Grosse Mignonne, and Goshawk Peaches, Lord Napier, Stanwick Elrage, Dryden, and Humboldt Nectarines, the house must be set to work at once. Damp the trees and house in the forenoon and early afternoon, turning the heat on in the morning so as to raise and maintain through the day a temperature of 50°, allowing a rise to 65° with sun heat and free ventilation from 50°. When the buds swell keep up a night temperature of 40° to 45°. Bring the border, if at all dry, into a thoroughly moist state by repeated waterings. Protect the outside border with litter or leaves, but not of a depth to cause the warmth to exceed 60° to 65°.

Succession Houses.—It is not sound and safe practice to defer pruning and dressing the trees until the buds commence swelling. There is then danger of dislocating the blossom buds and insecticides are more or less harmful. If any trees are swelling their buds more rapidly than is desired, as occurs when the houses have been used for plants, a covering of mats over the lights will prevent the temperature being raised by sun heat to a prejudicial degree, retarding the flowering considerably. Late flowering is mostly a sign of a good set, the sap being less active and does not evaporate because the wood is riper, thereby not exciting root and top growth unduly. Where the roof lights are off there will be no occasion for retarding the blossoms, as the weather will do that far better than any artificial means.

Late Houses.—Let the roof-lights remain off these until the blossom buds swell. Complete, however, the pruning and dressing of the trees and cleansing the house as favourable weather for such work permits. The buds take no harm until they commence swelling, and even then are proof against frost until the flowers show clear of the scales of the buds. Then the lights may be put on, for which there is usually no necessity until middle February or early in March. Where the roof lights are fixed air must be given to the fullest extent, keeping as cool as possible, and taking care that the trees do not suffer from lack of moisture at the roots.

Cherry House.—Trees usually started in December or early in this month, and frost being excluded from the house, move with no special excitement, and should be accelerated by applying fire heat, so as to maintain a temperature of not more than 40° at night and 45° in the daytime, advancing 10° from sun heat, ventilating at 50° and closing at that point. Ventilate very freely in mild weather, and avoid hasty treatment in the early stages of growth. Make sure that no deficiency of moisture exists in the soil, and see that trees in pots or tubs are not neglected for water. Sprinkle the trees occasionally in the morning and afternoon in bright weather, but avoid keeping them dripping with moisture, and ventilate a little constantly, as a close atmosphere weakens the blossoms even when they are enveloped in the scales of the buds. Cherries can hardly be brought on too slowly in the early stages of forcing, nor can they be too closely scrutinised for aphides. When the buds commence to swell these pests come out of their shells—the eggs, therefore fumigate directly the first trace of the pests is seen, which requires a keen eye or the aid of a pocket lens to discern them before they do mischief. Tobacco smoke and nicotine vapour are the best remedies.

Strawberries in Pots.—Proceed steadily with plants that are to give fruit at a stated time, for any hurrying may result in a bad set and ill-shapen fruits. A temperature of 50° to 55° is ample for those started in December, that not being exceeded on dull days, when the night and day temperature vary but little, and 60° to 65° in the daytime with

gleams of sun, up to 70° to 75° with bright sun will bring the plants on quite fast enough for insuring a satisfactory result. Ventilate whenever there is a chance. The trusses rise boldest and the flowers are strongest when the plants have the foliage sturdily formed, and that elaborates more food and is healthier than drawn and thin. Close atmosphere induces soft tissues, weakly organs of fructification, imperfect sets, and deformed, ill-shapen fruit. Newton Wonder, however, seems to do better in moister atmosphere than most varieties, even Black Prince forgets to mildew when it is syringed, also when a little sulphur is placed on the hot-water pipes in good time, so that the fumes make speedy work of the germinal tubes of the resting spores directly they rise from the oosphere and then the mildew (*Oidium balsami*) is not in evidence.

Another plague is the aphid. These creatures pass the winter in the egg state—little black specks on the under side of the leaves, and start into life directly the growth takes place in the buds. Therefore keep a sharp look out and fumigate with tobacco, or vaporise with nicotine directly the first is seen, and repeat at intervals, for it does not answer to do either after the blossom appear.

Introduce more plants to shelves in Peach houses or vineries started about this time. Rectify the drainage of the pots, remove moss or other matter from the surface of the soil, and wash the pots clean. Surface-dress with an approved fertiliser mixed with a little thoroughly decayed manure rubbed through a sieve. There is nothing better than a quart of soot and a similar amount of superphosphate mixed with a bushel of turfy loam; or blood manure (blood dried and ground to a powder), and superphosphate in equal quantities and amount last named, are excellent for stimulating growth. Royal Sovereign is a good variety for introducing now, also Noble and Auguste Nicaise, these producing large fruit, and are very prolific. President, Sir Joseph Paxton, and Sir Charles Napier may also be introduced, but to maintain the succession plants of La Grosse Sucrée or Vicomtesse Héricart de Thury should be introduced at the same time. Lucas is one of the best forcing Strawberries, and the quality is unsurpassed. It is a neat grower and deserves extensive cultivation, but is better for home use than market.

THE KITCHEN GARDEN.

Potatoes in Pots.—If a few early Potatoes are desired they can be had with the aid of pots or boxes. A single set may be placed in each 8-inch pot, three sets going in a 12-inch. Drain lightly, and three parts fill with light loamy compost, a mixture of two parts fibrous loam and one part old Mushroom bed manure answering well. Such short-topped varieties as the Old Ashleaf, Mona's Pride, Sharpe's Victory, and Early Frame are the most suitable, and each set ought to have a strong sprout already formed on it. Press them well into the soil, and just cover the sprouts, this allowing room for a top-dressing to be given when the points of the shoots are level with the top of the pots. These may be arranged in light positions on the borders in newly started vineries or Peach houses, or on shelves in the same class of houses. Not much water will be needed for a time, but when once rooting strongly treat exactly the same as other pot plants, liquid manure being given occasionally. Near to the glass in a pit, with a mild hotbed of leaves and manure, suits Potatoes in pots well.

Forcing Potatoes in Pits and Frames.—Those who have abundance of pit room, or the requisite number of deep frames, ought to take advantage of mild open weather to prepare beds for early Potatoes. In the former case a mild hotbed, largely composed of oak or other leaves in preference to stable manure, should be formed of sufficient depth to bring the soil placed on it well up to the glass. If frames are used set them on hotbeds made a foot wider all round, 30 inches to 3 feet high in front, and from 42 inches to 4 feet high at the back, this giving them a good slope to the front. Make the beds somewhat firmly with a view to having a sweet, gentle, and lasting heat. Cover the surface of the bed with short manure, placing on this about 10 inches of light loamy soil. When the trial sticks plunged in the hotbeds can, when withdrawn, be borne comfortably in the palm of the hand, the time has arrived for planting. Form drills, 6 inches deep and from 15 inches to 18 inches apart, from the back to the front of the pits or frames, and plant the previously strongly sprouted sets from 6 to 8 inches apart. Level down enough soil to cover the sprouts, and draw more up to them when well through the soil. The varieties already mentioned are suitable. Have plenty of mats, or these and dry straw litter, for covering the frames every night, affording extra protection whenever severe frosts are imminent.

Stored Potatoes.—The mild weather hitherto experienced has been conducive to the premature sprouting of Potatoes, particularly where stored in the dark. This sprouting, unless early checked, spoils the quality of cooking Potatoes, and has a most prejudicial effect on those intended for planting. Those "pitted" ought to be examined, and if beginning to sprout be completely uncovered, and the heap systematically turned. Throw out any diseased, and if not previously done divide the larger or "ware" tubers from those intended for planting purposes. If not possible to place the planting tubers in a shed or light cellar, where they can be kept cool and light admitted to them, store in a separate heap, strawing and sorting over as before. Heaps in outhouses ought also to be turned and cleared of sprouts. All may need additional protection any time during January and February.

Carrots and Radishes.—What has already been advanced concerning the preparation of beds, pits and frames for Potatoes

largely applies to Carrot culture under glass. It is of the greatest importance that the plants be kept growing near to the glass, this favouring early "bulbing." Six inches of fine light sandy soil, or such as can be had by sifting a heap of old potting soil, is ample. When the heat is safe form shallow drills at a distance of 4 inches apart, and if at all dry give a gentle watering prior to sowing, every second drill to be sown with Carrot seed, Radishes going midway between, and these will be ready for use long before the Carrots require the space. Sow thinly, especially in the case of the Radishes. French Forcing Carrot is the earliest variety, but Nantes and Early Short Horn are also suitable for frame culture, the latter remark also applying to Radishes, Scarlet and White Forcing Turnip, French Breakfast, and Wood's Early Frame. Well protect the frames and also the pits in preference to turning on much fire heat during frosty weather.

Spinach.—There has not, as yet, been enough frost to effectually check the growth of Winter Spinach, and it is doing good service accordingly. Early Peas and Spinach are sometimes sown together, but the former can be had earlier by sowing in pots and boxes under glass and planting out. In anticipation of the latter proceeding advantage should be taken of a dry time to well manure and then dig the site intended (usually a south border) for the Peas. Let the rows of Peas be 3 feet apart, and midway between sow Summer Spinach. Peas, when sown equally early in the open, are apt to decay—this being especially the case with any that are wrinkled.

PLANT HOUSES.

Anthurium Scherzerianum.—Plants that have enjoyed a rest since they completed their growth may be returned to the stove proper. They will soon push their bright scarlet spathes, which are useful for vases, as they last a long time and associate well with various Orchids of a light shade. They are effective when used for the embellishment only of the stove. Care must be taken not to overwater these plants. A. Andreanum is also a useful plant for winter, as it keeps producing a number of spathes. Plants in 6-inch pots on the side stages of the stove are striking at this season of the year. Too much water must not be given. Watch for thrips, this variety being very subject to it.

Dracaenas.—Plants that have become bare may be kept rather dry if the heads are not worth rooting. This induces the stems and root portion to harden, and when cut up and started for stock are less liable to decay. When a good start is made, and growth is rapid, well coloured plants are produced, of which the heads can be notched, taken, and placed in any size pots to suit the purpose for which they may be required.

Clerodendron Balfourianum.—Start one or more plants into growth that have enjoyed a good season of rest. Any unripened wood may be removed and the plants top-dressed with rich material if it is not thought desirable to repot them. This plant, by rich top-dressing and liberal feeding, does well in the same pot for several seasons. When repotting is decided on the plants should first start into growth, and the old ball only be reduced by one-third. Where plants have been grown in 7-inch pots, and taken up the roof of the house, the long well-ripened shoots may be trained round four or five stakes placed near the sides of the pots.

Allamandas.—One or a number of plants, according to how they are grown, may be started into growth. If the plants have not been pruned, do so at once—that is, those that have enjoyed six or eight weeks' rest. The shoots of last year may be cut back to two eyes. If grown under the roof of a house and extension is needed, the ripened shoots of last year near the extremities may be laid horizontally. These plants may be turned out of their pots, the balls reduced by one-half, and repotted firmly in well-drained pots in a compost of good loam and one-seventh of manure. The old ball, if very dry, should be soaked in tepid water and allowed to drain thoroughly before the plants are potted. Place these and the Clerodendron into a night temperature of 65°. If slight bottom heat can be given, the plants will start more rapidly into growth.

Stephanotis floribunda.—Plants that have enjoyed a good rest in a temperature of 50° may be accorded the same conditions as the Allamandas. The plants must be thoroughly clean, unripened ends removed, and be repotted if they need it. If in pots sufficiently large a top-dressing of decayed manure will be ample. Be careful not to give these plants too much water; thorough syringing will prove sufficient at first.

Gloxinias.—Some plants may be turned out of the old soil in which they have rested and be restarted in the forcing house. The tubers may be laid in boxes amongst leaf mould and sand until they are growing, when they may be lifted and placed into the pots in which they are to flower.

Caladiums.—Where a good temperature and brisk bottom heat can be given a few tubers may be started at once. If plenty of heat cannot be maintained the operation had better be delayed for some weeks longer. If started place the tubers in boxes the same as advised for Gloxinias.

Medinilla magnifica.—If this plant has been kept in the stove up to the present time it should be removed to a drier and cooler house to rest. A temperature of 50° will be ample if the plant is kept on the dry side. Thorough ripening and a good rest are necessary to bloom this plant well.

THE BEE-KEEPER.

APIARIAN NOTES.

HINTS FROM EXPERIENCE.

By the time this appears in print we shall have entered on another year, in the hope that it will be a prosperous one. The lessons of the past will stimulate many to improve on them in the search for success which individual effort alone can bring about. Co-operation does much, but without sound knowledge, self-reliance and industry, much labour may be in vain. The Journal for the past year contains much information, beautiful and truthful. The lecture of Mr. D. T. Fish, November 28th, page 501, is a study. It is as applicable to bee-keepers as it is to horticulturists, but it is with the objects and methods of the former that I have more particularly to deal.

Bee-keeping is not a mere hobby, it is a duty. Bees are the main factors in producing and maintaining all that is useful and beautiful for our service and gratification. Remove the bees and their allies, then would the order of things be changed and chaos ensue. Plants, flowers, and bees, how closely are they allied, the one catering for the existence of the other. There is nothing I know of better worthy of study than the honey bee—its habits, work, and mission; but let us turn to practical matters.

The production of honey in Great Britain will not increase in due proportion to the number of hives kept, because it is quite easy to overstock a district. There is, however, room in many localities for more bees, but not to the extent advised by some who preach the fanciful doctrine that "everyone should keep bees"—a manifest absurdity; and any such attempt might lead to enactments which the Romans enforced, that hives must be kept at certain distances from each other. I advise all persons who can do so in an understocked district, to keep bees. The cheapest way is to start in the autumn with driven or surplus bees, which are often to be had for the fetching. In late spring a stock hive can be bought at a moderate price, with a likelihood of its increasing to three; that is, if all are healthy, and the purchaser should possess a guarantee from the seller to that effect.

It sometimes happens that bees may be lost, and no blame attach to the original owner. Swarming may take place either prematurely or normally, for it cannot be prevented. In either case the old queen may be effete, or young queens may be lost in their natural flights. In such cases the loss lies in the purchase. It is safer and more satisfactory in the end to start at first with more than one hive.

The younger the queen is the more profitable will the hive be. Unless it cannot be avoided I never keep queens to breed the second year. After one year's breeding they become less prolific, and cause disappointment. Some people prefer to let the bees change their queen, but the advice is not sound, from the fact that instead of raising young queens to supersede old ones it as often happens that the old queen is tolerated till the hive has dwindled to a few bees.

Our large hives tax queens more than small ones, but give greater yields of honey. I much prefer hives for stocks whose queens do not lay many eggs late in the season, injudicious autumn feeding having a tendency to excite to the depositing of thousands of eggs which are never hatched. I have witnessed hundreds of cells filled to the brim with eggs when the bees were few in number. Bees are never old in the proper sense till their wings become ragged. At the present time I have not a younger bee in my apiary than five months, while most of them are older.

To create a new colony with surplus swarms 4 lbs. of bees are adequate. That number will not, however, comb a full-sized Lanarkshire hive type in three divisions, but can furnish two if the bees are properly fed, the third division being either filled with surplus worker combs of the current year's make, or have the frames filled with foundation. It is sound practice to renew the combs every year; it is a good preventive of foul brood, and there is never any tainted honey.

For nuclei and weak hives I have found wooden scoops the best feeders, but for strong hives metal is not objectionable. The feeder I use is a tin or brass scoop covered with wire cloth, with a platform on one end to support the fountain, which is furnished with a projecting ring stopped with a cork, through which a saw-handle screw passes, acting as a valve. This prevents the escape of any syrup when inverted, and can be lifted off or put on without disturbing the bees or being disturbed by them. The best sugar is always chosen, and I add equal weight of water, stirring to prevent burning until it boils. I feed a little only at a time

for a day or two until some combs are built, then increase the quantity, taking care not to cause the bees to secrete more wax than is necessary.

Where feeding has been neglected till too late candy is a good substitute for a time, but it is more expensive than syrup, which the bees will take if contiguous to them during the severest weather, and remain healthy. I have helped to put candy in a score of neglected hives in November, and arrange them for the winter. The bees in only three of these hives lived to see the spring, the candy was unconsumed, though had from a famed maker.—LANARKSHIRE BEE-KEEPER.

(To be continued.)

ENEMIES OF BEES.

WITH reference to the query from Mr. J. Hiam (page 19) I may state that the blue tit (*Parus cœruleus*) and great tit (*Parus major*) are both very numerous in this locality (South Yorkshire), owing, doubtless, to the many acres of woodland in the immediate neighbourhood. But which is the greater culprit, as regards destroying bees, I am unable to say, as they both pay close attention to the hives, and will readily seize any stray bee that comes in their way. The great tit would, probably, destroy more than the smaller blue tit on account of its size.

In trapping them I have caught about an equal number of each, but strange to say during the past week not a bird has been tempted to take the bait exposed in the traps. Not that they are all annihilated, but during the mild weather food has doubtless been more plentiful, as a close observer cannot fail to see how active they are on mild days in searching all the crannies and crevices in old walls and trees, from which their natural food is obtained; and doubtless they do much good in this way, as they never interfere with the bees during the summer months.

But as a bee-keeper I object to them destroying my bees by the hundred, and I may say the thousand, consequently I wage war against them throughout the winter months. The tits are evidently better behaved in Worcestershire, as "J. H." mentions their being busy picking up the dead bees cast out of the hives. If they only did this in my apiary, and left the live bees alone, I should welcome them as friends, instead of enemies.

BOTTOM VENTILATION.

It is interesting to learn from "A Howdenshire Bee-keeper" (page 20) that he approves of bottom ventilation, and that we are both working on the same principle. Where solid floor boards are used I recommend wide entrances, but with ventilated floors a narrow entrance should be given throughout the winter. I fail to see the difference, as in both instances a plentiful supply of air will be introduced into the hive. Many people object to a wide entrance, owing to a mistaken idea that the moisture during the prevalence of heavy storms will be driven into the hives. This does not happen in practice, if the hive (as it always should) slopes about an inch to the front, which will allow any moisture that may fall on to the alighting board to at once drain away from the hive.

With reference to the question, "If the entrance is open right across the hive will not breeding be retarded?" I do not approve of having the entrance the full width of the hive. Mine will average from 6 to 8 inches in width, this allowing ample space for the bees in ordinary seasons; but during the honey flow, should the weather be excessively hot, the hive is wedged up its full width. This affords the bees more room in passing in and out, and will also cause better ventilation. Of course this cannot so easily be done unless loose boards are used.

I have not found breeding retarded under this treatment, as stocks worked on these lines have invariably come out strong. Note was made of this fact last spring, when every colony came out strong and healthy. All had bottom ventilation as stated above. The hives stood in the open exposed to all weathers, the thermometer going below zero on more than one occasion. This shows the practical side of the question, and is in marked contrast to some bees in this neighbourhood that were kept in close moist hives and utterly collapsed.

FEEDING BEES.

I agree with "H. B. K." that all stocks should be fed up for winter by the first week in September, but there are many bee-keepers who, through various causes, neglect doing so at the proper time. Some will start when it is too late, and the weather is too cold for the bees to take the syrup offered; others leave them to chance, and at midwinter will find their stocks short of stores, and on the verge of starvation, so what is to be done?

Syrup is not suitable then, in fact very often bees will not take it; but properly made soft candy I have found quite suitable given them at that time of the year. It may not be their natural

food, but they will enjoy it all the same. If it is laid on the top of the frames, over the cluster of bees, and well covered with several thicknesses of warm material, no draught will be caused, neither will any dampness arise from it, and should the following season be favourable, they will repay the bee-keeper a thousandfold.—AN ENGLISH BEE-KEEPER.

ENTRANCES TO HIVES—BOTTOM VENTILATION.

WHEN I wrote my first letter it was on wide *versus* narrow entrance. My experience differs from "An English Bee-keeper." I am a strong believer in perforated zinc floors with the entrance one inch in width through the winter, increasing the width as the bees increase in the spring. My bees have passed the winter better in that way than when they had wide entrance and solid floors.

"An English Bee-keeper" thinks the cause of the bee-keeper I mentioned losing his stocks would be either the roof or sides of hive at fault, but that is not the case. The man is a builder, who makes his own hives, and surely he could have found a faulty place had there been one, even if I had overlooked it. We both searched, but found the hive waterproof. The expert paid his visit in the spring and pronounced the bees doing well from what he could see by taking off the quilt, but, being a cold windy day, he could not take out the bees.

My experience is this: the combs nearest to the entrance are the first to become mouldy, through wet being driven in by the wind. The corners are first filled with *débris* which draw and hold damp. The second winter there is a greater accumulation of *débris*, which extends further in the hive, when damp increases and the stock is doomed. With perforated zinc floors there is nothing of that known, to say nothing of the labour required and loose boards to be kept for changing in the spring. It must take two to lift the hive while a third changes the floors, whereas with zinc floors one can do each in three minutes, and often less.—R. A. C.

CARBOLIC ACID *versus* SMOKE.

I HAVE not tried calico with carbolic acid, but should think it would not soak up the acid like brown paper. Neither could calico be used between the bars with ease; whereas brown paper cut the same size as the bars, as recommended by "A Lanarkshire Bee-keeper," can be used anywhere, with comfort to both operator and bees. I have never known bees to leave the hive through using acid, although I have used it freely in some cases, and have the same papers that I used nine years ago, which are as good now as then.

A gentleman in this district who has kept bees many years was about to take off one crate of sections and put on another, when his bees became so spiteful that he could do nothing with them, although he used smoke freely. He sent for me, and I found they had two entrances, the second in the side of the hive. The roof inside and out was covered with spiteful bees. Smoke was of no use then, but a little acid at each entrance, with three pieces of paper with acid on placed under the roof of the hive had the desired effect, and the remaining work was done with comfort.

Had the lady I mentioned before known of carbolic acid and used it she would have had more control over her bees, and I think carbolic acid should be used in every apiary and smoke abolished.

An "E. B. K." asks if my bees had foul brood? They had not, as I said before I sent comb to this Journal, and mentioned the numbers where all the information may be found concerning them. I destroyed the comb, put foundation in the same bars, and used the same hive fed up with syrup. Unfortunately the hive was blown over during the winter, all the combs being destroyed but one. Two others I tied up. The few remaining bees were wintered on them, and made a strong stock the following summer. They could not have done that had they been affected with foul brood.—R. A. CLARK, *Flaneswood*.

TRADE CATALOGUES RECEIVED.

Barr & Son, 12, King Street, Covent Garden, London.—*Vegetable and Flower Seed Guide*.

G. Banyard & Co., Maidstone.—*Home-Grown and Genuine Seeds*.

H. Cannell & Sons, Swanley.—*Chrysanthemums*.

J. Carter & Co., 237, High Holborn, W.C.—*Chrysanthemums*.

Dicksons, Limited, Chester.—*Select Vegetable and Flower Seeds*.

Dicksons & Co., Waterloo Place, Edinburgh.—*Garden Seeds*.

W. Drummond & Sons, Dublin.—*General Seeds*.

H. Allen Davis, Linkfield Corner, Redhill.—*Vegetable and Flower Seeds*.

H. Eckford, Wem, Shropshire.—*Sweet Peas and Other Seeds*.

Harrison & Sons, Leicester.—*Seeds*.

Hogg & Robertson, 22, Mary Street, Dublin.—*Seed List*.

Kelway & Son, Langport, Somerset.—*Kelway's Manual for 1896*.

Kent & Brydon, Darlington.—*Garden Seeds*.

W. Leighton, 89, Union Street, Glasgow.—*Seeds and Bulbs*.

W. Paul & Son, Waltham Cross.—*Seeds and Sundries*.

Ant. Roozen & Son, Overveen, Haarlem, Holland.—*Spring Catalogue*.

R. Sydenham, Tenby Street, Birmingham.—*Unique Seed List*.

W. G. Tidy, Manager Brockhampton Nurseries, Havant, Hants.—*Chrysanthemum Catalogue*.



* * All correspondence should be directed either to "THE EDITOR" or to "THE PUBLISHER." Letters addressed to Dr. Hogg or members of the staff often remain unopened unavoidably. We request that no one will write privately to any of our correspondents, as doing so subjects them to unjustifiable trouble and expense.

Primulas (*J. Laing & Sons*).—The flowers of Chinese Primulas that have reached us are excellent in form, the substance and colours denoting what may be termed a good strain.

Forcing Vines (*Walter*).—We have seen excellent results accrue from the method you propose of carefully turning Vines out of the pots and planting them in a narrow border, instead of forcing them in the pots. The soil was placed firmly round as if the Vines were transferred to larger pots. The Vines were good in themselves, and no mistake was made in their subsequent management. Some gardeners plunge the pots over the rims, notch the lower part of the canes, and peg them into the border, thus obtaining "two sets of roots." You can try either or both methods if you wish to test their relative merits by experience.

Gooseberries and Currants for Exhibition (*Apollo*).—We do not know of any "Society" that makes a speciality of these. As to varieties of Gooseberries perhaps the following digest from a number of shows may be useful as a guide in selection:—Forty-eight varieties of reds were exhibited, a variety named Bobby taking 127 prizes of various degrees, the heaviest berry weighing 29 dwts. London followed next with eighty-nine prizes, Lord Derby eighty-eight, Clayton seventy-seven, Dan's Mistake sixty-nine. Yellows: Leveller 155, Ringer 102, Lady Houghton eighty-one, Mount Pleasant sixty-nine. Fifty-five varieties of yellow were shown. In greens forty-five varieties were shown, and Surprise scored 105 prizes, Stockwell ninety, Shiner eighty, and British Oak seventy. In whites forty-five varieties were staged, and Careless scored eighty-eight, Transparent eighty, Hero of the Nile seventy-six, and Antagonist fifty-five. This, we think, is a fair representation of exhibition varieties. We know of no Black Currant that produces larger individual berries than Baldwin's. The finest reds for exhibition are La Versailles and Cherry. There is very little difference between them. The white Grape (a selection from White Dutch) and Wilmot's Large White are good for exhibition.

Forcing Melons (*Abbey*).—Melons, to ripen in May, ought now to be starting, the plants grown in ample heat and kept near the glass, so as to have them sturdy, not planting out until they are strong, say a foot high, having them supported by small sticks and the laterals rubbed off as they show. Plants will do well in boxes about 18 inches square, and a foot or 15 inches in depth, the plants trained with a single stem, rubbing off all laterals to the height of the bottom wire of the trellis, and then every other lateral on the opposite side of the line. The laterals left will probably show fruit at the second or third joint, and if the blossoms be duly impregnated the fruits will set and swell, ripening from an early January sowing in May. If no fruit is shown on the first lateral, stop at the second joint, and plenty will appear on the sub-laterals, but the crop will be about three weeks later in ripening. You will find full instructions on culture in our "Work for the Week" columns. After the Melons you could put out strong Tomato plants, and have a heavy crop of Tomatoes in late summer and autumn. Something of that kind is necessary in these days to make things pay, not relying on one crop, but on such as can be grown well, and which are in demand. Early Melons alone, unless the crop is good and the fruits fine, may not be very remunerative. Some growers make later, because usually better, crops pay very well, and they involve less expenditure in fuel.

Old Vine Stem Diseased (*B. R. B.*).—The Vine stem is infested with the Vine root-fungus (*Dematophora necatrix*), the rhizomorphs permeating the living tissues, abstracting their substance and killing them. The parasite first enters the fibrous roots, kills them, and, at their base, bores into the large roots, spreading afterwards in their interior, and, ascending, reaches the stem. This, in your case, has been chiefly attacked on one side, and on that quite through to within about half an inch of the cortical tissues on the other, so that it must ultimately have been entirely girdled and the Vine destroyed. On one of the roots we also found the somewhat common root-fungus called *Roesleria hypogæa*, but this is probably saprophytic, or rather endophytic, as it certainly is found adjoining and destroying living tissues. The Vine is too far gone to attempt anything in the way of remedial measures—indeed, it is hardly worth while attempting a cure after the fungus enters the stem, but on the roots it is easily destroyed by judicious applications of cresol (Jeves' fluid), phenol (soluble phenyle), and chlorine (corrosive sublimate), but it must be done upon the first appearance of the woolly mycelium in the soil or on the roots. See page 605, December 26th, 1895, a reply to "F. W." on fungus and eelworms. Apart from what may be applied to the soil, very old Vines should be encouraged to make all the young wood possible, removing exhausted spurred rods to make room for the full expansion of the leaves of the young canes under the direct action of light.

Names of Fruits.—Notice.—We have pleasure in naming good typical fruits (when the names are discoverable) for the convenience of regular subscribers, who are the growers of such fruit, and not collectors of specimens from non-subscribers. This latter procedure is wholly irregular, and we trust that none of our readers will allow themselves to be made the mediums in infringing our rules. Special attention is directed to the following decision, the object of which is to discourage the growth of inferior and promote the culture of superior varieties. *In consequence of the large number of worthless Apples and Pears sent to this office to be named, it has been decided to name only specimens and varieties of approved merit, and to reject the inferior, which are not worth sending or growing.* The names and addresses of senders of fruit or flowers to be named must in all cases be enclosed with the specimens, whether letters referring to the fruit are sent by post or not. The names are not necessarily required for publication, initials sufficing for that. Only six specimens can be named at once, and any beyond that number cannot be preserved. *They should be sent on the first indication of change towards ripening. Dessert Pears cannot be named in a hard green state.* (*J. G. M.*).—The yellow Apple is Ringer, and the other the Red Winter Calville. (*E. S.*).—1, Mère de Ménage, pale; 2, White Winter Calville; 3, Northern Greening; 4, not recognised (are all the fruits swollen at the stalk?); 5, Lemon Pippin; 6, Stamford Pippin. (*J. T. F.*).—We are sorry to say the Pears reached us in such a condition as to preclude naming, being soft and rotten, as though they had been frozen. We can only suggest that possibly 3 is Easter Beurré, and 5, Glow Morceau. (*Danes Hill*).—Very fine specimens of Dumelow's Seedling.

Names of Plants.—We only undertake to name species of plants, not varieties that have originated from seeds and termed florists' flowers. Flowering specimens are necessary of flowering plants, and Fern fronds should bear spores. Specimens should arrive in a fresh state in firm boxes. Slightly damp moss, soft green grass, or leaves form the best packing, dry wool the worst. Not more than six specimens can be named at once, and the numbers should be visible without untying the ligatures, it being often difficult to separate them when the paper is damp. (*G. L. B.*).—1, Ficus Parcelli; 2, specimen totally insufficient; 3, Rivina humilis; 4, a Plumbago, possibly Larpentæ; 5, Schizostylis coccinea. Through the package being in the post over Sunday all the specimens were much withered. (*T. T.*).—1, Dieffenbachia picta; 2, Oncidium curtum. Zonal Pelargoniums are florists' flowers, which we cannot undertake to name. (*W. H. F.*).—1, Phoenix dactylifera; 2, Kentia Belmoreana. (*R. P.*).—1, Selaginella apus; 2, S. Kraussiana; 3, Adiantum pedatum; 4, Polystichum angulare.

COVENT GARDEN MARKET.—JANUARY 8TH.

OUR Market is very bare of home produce now, and, except for Grapes and Cucumbers, is almost entirely dependent upon foreign supplies.

FRUIT.					
Apples, per bushel	2 0 to 3 6		Lemons, case	11 0 to 14 0	
" Nova Scotia, barrel	13 0 17 0		Pears, Californian, per case	13 0 14 0	
Grapes, per lb.	1 0 2 0		St. Michael Pines, each	2 0 6 0	
VEGETABLES.					
Beans, per lb.	0 10 to 1 0		Mustard and Cress, punnet	0 2 to 0 0	
Beet, Red, dozen	1 0 0 0		Onions, bushel	3 6 4 0	
Carrots, bunch	0 3 0 4		Parsley, dozen bunches	2 0 3 0	
Cauliflowers, dozen	2 0 3 0		Parsnips, dozen	1 0 0 0	
Celery, bundle	1 0 0 0		Potatoes, per cwt.	2 0 4 0	
Coleworts, dozen bunches	2 0 4 0		Salsafy, bundle	1 0 1 6	
Cucumbers, dozen	4 0 9 0		Seakale, per basket	1 6 1 9	
Endive, dozen	1 3 1 6		Scorzonera, bundle	1 5 0 0	
Herbs, bunch	0 3 0 0		Shallots, per lb.	0 3 0 0	
Leeks, bunch	0 2 0 0		Spinach, bushel	2 0 2 3	
Lettuce, dozen	1 3 0 0		Sprouts, half siv.	2 6 0 0	
Mushrooms, punnet	1 0 1 6		Tomatoes, per lb.	0 6 0 9	
			Turnips, bunch	0 3 0 0	
PLANTS IN POTS.					
Arbor Vita (golden) dozen	6 0 to 12 0		Ferns (small), per hundred	4 0 to 6 0	
Aspidistra, dozen	18 0 36 0		Ficus elastica, each	1 0 7 0	
Aspidistra, specimen plant	5 0 10 6		Foliage plants, var. each	2 0 10 0	
Chrysanthemums, per doz	6 0 18 0		Lycopodiums, dozen	3 0 4 0	
Dracæna, various, dozen	12 0 30 0		Marguerite Daisy, dozen	6 0 9 0	
Dracæna viridis, dozen	9 0 18 0		Myrtles, dozen	6 0 9 0	
Ericas, various, per dozen	9 0 24 0		Palms, in var., each	1 0 15 0	
Euonymus, var., dozen	6 0 18 0		" (specimens)	21 0 33 0	
Evergreens, in var., dozen	6 0 24 0		Solanums, per dozen	8 0 12 0	
Ferns in variety, dozen	4 0 18 0				
AVERAGE WHOLESALE PRICES.—OUT			FLOWERS.—Orchid Blooms in variety.		
Acacia or Mimosa (French)	1 0 to 2 0		Pelargoniums, 12 bunches	6 0 to 9 0	
Arum Lilies, 12 blooms	3 0 5 0		Primula (double), dozen	0 8 1 0	
Asparagus Fern, per bunch	2 0 4 0		sprays	1 0 2 0	
Bouvardias, bunch	0 6 1 0		Roses (indoor), dozen	1 0 2 0	
Carnations, 12 blooms	1 0 3 0		" Tea, white, dozen	1 6 3 0	
Chrysanthemum, doz. blms.	1 0 4 0		" Yellow, dozen (Niels)	3 0 6 0	
doz. bunches	3 0 6 0		" Red, dozen blooms	1 0 1 6	
Eucharis, dozen	3 0 4 0		" Safrano (English),		
Gardenias, dozen	2 0 4 0		dozen	1 6 3 0	
Geranium, scarlet, doz.	4 0 9 0		" Safrano (French), per		
bunches	4 0 9 0		dozen	1 6 2 0	
Hyacinth (Roman) dozen	0 6 1 0		" Pink (French), per		
sprays	5 0 5 6		dozen	3 0 4 0	
Lilac (French) per bunch	5 0 5 6		Smilax, per bunch	5 0 6 0	
Lilium longiflorum, twelve	4 0 8 0		Stephanotis, dozen sprays	6 0 9 0	
blooms	4 0 8 0		Tuberose, 12 blooms	0 4 0 6	
Lily of the Valley, dozen	1 0 2 0		Violets Parme (French),		
sprays	4 0 8 0		per bunch	4 6 0 0	
Maidenhair Fern, doz. bchs.	2 6 4 0		" Ozar (French), per		
Marguerites, 12 bunches	1 6 12 0		bunch	2 0 3 0	
Orchids, various, dozen			" Victoria (French),		
blooms			12 bunches	1 9 2 6	
			" English, 12 bunches	2 6 0 0	



PROFITABLE FARMING.

VERY different should be the cropping of arable land by large and small farmers, though profitable farming is undoubtedly the object of both sections of our most important national industry. Under the present and prospective conditions of agriculture small farms of from 60 to 150 acres are much more in request than large farms. We hope this is an indication of a better proportion of land to capital, of a general recognition of the true value of intensive culture, of more thorough intelligent practice in every way.

On such small holdings we have seen mixed farming done exceedingly well, the arable farming being especially attractive, both from the excellence and admirable arrangement of the crops. The scheme of cropping embraces plenty of Drumhead Cabbage in use now, even more Thousand-headed Kale to follow, and for use in early spring as being a thoroughly reliable green crop, perfectly hardy, wholesome, nutritious, and very productive. In comparison with these two the root crops are moderate. They comprise Potatoes, Turnips, Carrots, and Mangolds, mainly for home use, but also for sale where there is a demand.

Such a farm always has an early field of Rye, so green and vigorous at midwinter as to come briskly into use early in spring, before all other green crops excepting the Kale. There is nothing so useful then for folding ewes and lambs on, or for mowing for dairy cows, cattle, and horses. It gives the colour and flavour of midsummer to butter long before the cows can be, or rather ought to be, turned out to grass, and is so much in request that most farmers have found their supply run short year after year. Let this be remembered when sowing time comes again next autumn. Better have some Rye to spare than run short, for though Italian Rye Grass comes into use soon afterwards, it never is so early as the Rye.

The scheme of cropping for the farming year was settled at Michaelmas; it was then decided whether any farmyard manure could be spared for pasture, or whether all that was in hand and would be made during winter would be required for the root crops. Well is it to give heedful attention to this matter in time. We know it is a favourite custom on many farms to dress pasture with farmyard manure in October; we used to do so ourselves, but when we were able to grasp the full value and importance of chemical manure from results in our own practice, there was an end once for all of autumn dressings on permanent pasture. All of it was saved for the root crops, and instead of a mere scattering of it along the furrows, we have ever since then had the furrows half filled, so that when the young plants of Swede, White or Yellow Turnip, Carrots, Mangold, or Kohl Rabi put forth roots, they are so quickly established in the rich moisture-holding muck as to be practically safe from drought.

Thus in root culture the liberal use of farmyard manure is a safe and sure basis on which we build up a crop by subsequent applications of stimulating chemical manures. To render this matter somewhat more clear to students, we may remind them that the farmyard manure is a safe basis, because it contains all the elements of plant food which it is found necessary to impart to the soil in the ordinary course of manure application, as well as a superabundance of moisture. These essential elements are nitrogen, potash, and phosphoric acid, and if when the plant is singled and well established it has surface dressings of nitrate of soda at intervals, growth is quickened, is more robust, and a crop of extraordinary abundance is the result.

It is by such timely and intelligent practice, in combination with persistent energetic effort that profitable farming is still possible. We must put more thought into our work, and set ourselves to obtain a clear knowledge of everything affecting it for good or evil. In nothing is this more important than in this application of manures. Take our answer last week to a correspondent about a dressing of chemical manure for his Winter Oats. With one part of nitrate of soda to two of mineral superphosphate we gave one-fourth part of bone flour, because we knew that if the nitrate of soda and superphosphate were mixed and left for some days before being used, the acid in the superphosphate would set free the nitrogen in the nitrate of soda and it would be lost, but the addition of the bone flour prevents such loss, as it absorbs and retains the nitrogen.

There is our reason why for what is at once a simple and yet an important matter. To lose the nitrogen from any manure is to lose its most important element, and we may usefully conclude this article by urging our readers to set themselves to master every detail of the application of manure, the what, when, and how of it; to grasp clearly and fully the meaning of that comprehensive term, sustained fertility, as the very keystone of profitable farming.

(To be continued.)

WORK ON THE HOME FARM.

A case of abortion among the dairy cows has caused some alarm at our home farm. We have been unable to get at the actual cause, and can only conjecture that it arose from exposure, or fighting, or both. The cow is a Jersey, rather small, but she has always been a healthy animal. Fortunately it was seen to be unwell, and was at once removed from the yard to a single hovel right away from the cow and stock yards. It will be kept there for some weeks, and a careful watch kept on the other cows. This case coming at such a critical season of the year is an incentive to extra care of the cows.

Having gone closely into every detail, though we have no reason to suppose there is any ergot in the stack of hay in cut for the cows, we have had another stack begun for them, and have urged on the bailiff incessant watchfulness. Food, water, litter, ventilation, are all right enough, and we hope we are safe, but we have strong faith in prevention rather than cure. We have known abortion run through a herd of cows like an epidemic, upsetting all calculations, and causing much subsequent trouble.

This is a reminder of the value of separate hovels or loose boxes for the calving of cows, the foaling of mares, and for the isolation of any infectious case. We have large loose boxes connected with both cow-houses and stables, and also separate hovels away from the yards, each with its little yard and paddock so as to be available for special cases at any season of the year.

The mild open weather has thus far proved favourable to a full supply of eggs this winter. Well is it to see that the laying hens' quarters are snug and clean, and to meet a change to colder weather by the regular use of warm food. Feed now at daybreak, and again early in the afternoon to make sure that none of the hens go supperless to roost, and give them a little corn occasionally among some litter by the dusting place. Get plenty of early broods for a full supply of spring chickens, and if eggs are placed under broody hens make the nests as safe as possible from frost. Better because more certain is an incubator, and foster mother or warm light room. There is then no risk of chill to the eggs, and chicks should be forthcoming freely enough. This is a word to the wise and a reminder of how serious were losses from excessive cold early last year.

METEOROLOGICAL OBSERVATIONS.

CAMDEN SQUARE, LONDON.

Lat. 51° 32' 40" N.; Long. 0° 8' 0" W.; Altitude 111 feet

DATE.	9 A.M.				IN THE DAY.				Rain.	
1895, December ; and January, 1896	Barometer at 32° and Sea Level.	Hygrometer.		Direc- tion of Wind.	Temp. of soil at 1 foot.	Shade Tem- perature.		Radiation Temperature.		
		Dry.	Wet.			Max.	Min.	In Sun.		On Grass.
	Inchs.	deg.	deg.		deg.	deg.	deg.	deg.	Inchs.	
Sunday .. 29	29.967	46.3	46.0	N.W.	39.0	51.1	32.8	51.4	33.0	0.329
Monday .. 30	29.739	50.9	50.7	W.	41.0	55.2	46.1	58.4	44.4	0.012
Tuesday .. 31	29.882	50.2	49.6	W.	43.0	51.9	48.2	59.0	43.8	—
Wednesday 1	30.216	44.0	43.6	N.E.	42.9	49.9	39.1	51.9	34.0	0.028
Thursday .. 2	30.193	49.4	49.0	S.W.	43.3	50.8	44.4	52.9	43.0	—
Friday .. 3	30.229	42.1	41.4	N.	43.9	43.9	41.6	45.9	41.4	—
Saturday .. 4	30.285	41.7	41.2	N.E.	43.2	43.8	38.6	45.0	39.0	—
	30.073	46.4	45.9		42.3	49.5	41.5	52.1	39.8	0.369

REMARKS.

29th.—Overcast and mild day; rain at night.
 30th.—Steady rain till 10 A.M.; fair morning; sunny afternoon.
 31st.—Bright sunshine almost throughout.
 1st.—Overcast day, a little drizzle in afternoon.
 2nd.—Rain between 7 and 8 A.M.; dull and damp till 11 A.M.; fair after.
 3rd.—Overcast, with more or less smoke fog all day; dark in afternoon.
 4th.—Overcast, and damp at times.

A mild week, considerably warmer than the last week in October.—G. J. SYMONS.

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Journal of Horticulture.

THURSDAY, JANUARY 16, 1896.

ENGLAND'S STRENGTH AND WEAKNESS.

"LIVING in a large agricultural centre, and
viewing with pain the condition of things,
I have penned the enclosed few lines, and should
feel obliged by your kind insertion of the same
in your valued columns. True patriotism suggests
our being prepared at all points, and the voice
that warns of a danger casts no doubt on the
courage and ability of the country to meet it
if only aware of its reality and magnitude in
time."

Thus writes a country rector, who sends us
his name and address, but not for publication.
The "few lines" referred to are woven into a
dozen verses, but the refrain alone can be
inserted, and it is enough. The fact embodied
is, sad to say, all too true, and the possibilities
are fraught with deep significance, while the
eventual results may be at some time or other
(and perhaps when least expected) momentous.
Our correspondent has in view (1) our natural
insularity, (2) the strength and the danger of it,
(3) the prudence of preparation at "all points"
for that great, brutal, scourge of nations—war;
(4) our weakness in the production of food by
and for our own people in our own country, and
(5) a cause and a remedy. Here is the rector's
refrain—

"Hark to the cry of our English land,
Starved for the want of the human hand."

Who will say that truth does not lurk in, or
rather does not shine out, of that couplet? What
is the truth, and what would be the consequences,
if we as a nation should by stress of circum-
stances be compelled to rely mainly on our
internal resources in the matter of food for even
two short years? The truth is, and it is not
creditable to us as a nation, that our population
has increased enormously, and is increasing,
while of late years the production of food by
"English land" has decreased very much in
the same ratio. Is that a condition of things
with which any thoughtful person can rest
satisfied and feel that it is what ought to be?
It is only conceivable that it can be thought to
be satisfactory by those individuals whose one
object of life is to amass wealth, even if it

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Telegraphic Address—"PURITY, MANCHESTER."

involve the ruin of others, and jeopardise the honour and well-being of the nation as a whole. The potential consequences of the deprivation of supplies from other lands for the two "short years" would make those years long years of suffering and misery to thousands; while if we had to rely on our own soil alone for food produce over a much longer period, gaunt famine would stalk through the land, with pestilence and a great harvest of death in its train. It is better to look facts in the face than to shirk them, no matter what their nature may be.

"But such a thing can never occur as our being shut in and thrown on our home resources. We are too rich, too strong, too brave, even unconquerable by any nation or combination of nations" may be urged, and is urged, against the very possibility of reverses to cripple our commerce. Granted our national wealth and strength, our power and determination in great emergencies, and recognising and applauding a bold spirit of self-reliance, we have still to remember that the richest, strongest, boldest, bravest, and most self-reliant nations of the past are far from being in that position now, and some are only a name. "True patriotism," says the rector, "suggests our being prepared at all points." We may be well prepared, or might be by determined effort and willing sacrifice in some, but we are not so prepared in "all." We may be, and are, strong in the power of destruction, but we are not strong in our methods of production—of wresting from the soil anything like the bulk and value of food it is capable of producing. Whether in peace or in war we have, with all our boasted self-reliance, to absolutely "rely" for the necessities of life on distant lands to a greater extent than has any other nation under the sun. That is a fact, and no mere shrugging of the shoulders can shake it off.

The fact may be admitted, but unfortunately a large number of persons, and it is feared the larger number, who have it in their power to bring about a change for the better do not seem to know it, and cannot be brought to believe that any good can be done with the land that is not done now. It is a sorry conclusion, and neither betokens knowledge nor courage. It is true enough in one sense that a vast extent of land is not profitable on existing tenures. This is attributed to a variety of causes. Our climate is said to have changed for the worse; the average staple of British soil to be far below that of other lands; the prices obtained by the growers of grain and roots, flocks and herds, milk and butter, eggs and bacon, fruit and vegetables, to be lower at home than abroad. Not one of these allegations is true. The climate has not changed, during the last fifty years at any rate; the average yield per acre of agricultural crops is, even under present culture or semi-neglect, greater at home than in any kingdom in Europe (with the exception of Wheat in Holland) or any State in America; while if the prices for various products were higher in the countries where they are grown than are obtainable here, those products would not be sent to our markets. In all those, what may be termed concrete conditions, our sea-girt isle still has the advantage. True, in some countries the cost of production may be less than at home; but in that of our greatest rival (America) the wage rate is higher. Rates, taxes, cost of transit, free trade may tell against home cultivators. The majority of our enfranchised people have only to be convinced that those "incidences" are unjust, having regard to the national weal, to alter or at least modify some of them; but it has to be seriously considered whether still more good could not be done, still more home contentment established, and still more national safety insured by the combined efforts of a vastly greater number of thorough cultivators than are now entrusted with the management of the land.

We may be proud of our preparedness for the most to be dreaded of all eventualities, of our national wealth, our powerful navy, our ponderous stores of ammunition, of our soldiers, sailors, and statesmen, of our means for manufacturing all that may be needed in a time of storm and stress consequent on an upheaval of

nations, but we cannot be proud of our capacity for producing within our shores the greatest motive power of all—food for our millions. What are the facts? A London paper emblazoned with the Royal arms lately said, "A country in which there is little or no store of grain in barn or warehouse is in a most dangerous condition. In 1800 we had 10 acres of Wheat to every thirty-two inhabitants. We have now 10 acres to every 260. Our present consumption has been estimated at 480 lbs. of Wheat per head—an annual necessity of 33,000,000 quarters. In 1894 we grew in the United Kingdom only 7,220,000 quarters, or less than one-fourth of our total consumption. For ninety days in the year we live on bread from British-grown corn, and batten for 275 days on the aliens' corn. This is not a healthy, because it is a precarious subsistence," significantly adding "Germany understands this question, and treats it from a strategic, not from an economic point of view." So ought England by, in one way, affording the greatest facilities for increasing the number to the fullest possible extent of actual thorough cultivators of areas, small or large, in accordance with their means. There may be other ways, but that is a simple and natural way; also safe, inasmuch as the nation would have everything to gain by it, and nothing to lose.

But there is an alternative to increasing the supply of home-grown Wheat in that way, and though a terrible one, sad to say, there are not lacking men who would rather welcome it than otherwise on the ground that a "good war would raise prices." A "good" war! Such men would take care to make themselves safe, if men they can be called, instead of ghouls, who would fatten on human blood. But there is also an alternative to this heartless proposal. If the price of bread were to rise in somewhat the same proportion that it did during the wars of the early part of the century, when the home supply of Wheat per head was some eight times greater than it is now (as it would if our imports were cut off), that in itself would be a calamity, as it would be equivalent to a tax computed at £180,000,000 on the consuming population, thus weakening the nation by that amount in a case of extremity. It is clear that the food-producing power of the land ought to be increased, and this whether in view of prolonged war or peace; in the case of the former to prevent starvation, in that of the latter to meet low prices, and secure a margin of profit. Only the fullest yields can do this, low yields under the circumstances plainly leading to bankruptcy. The land is like a mine, its value depending on the output in bulk and quality, whether the prices for the commodity extracted be high or low.

If the international jealousies and antipathies leading to present disturbances, of which no one knows the end, were to emphasise the cultural shortcomings that are so apparent over hundreds of thousands of acres of land in this country, that in itself would be some compensating advantage. It is not that those acres are not paying under grain culture only; they are not paying under anything, because neither the essential labour nor fertility is invested by which alone anything can be forthcoming; but where land of good staple is thoroughly worked and its fertility adequately sustained, or, in other words, where the best handwork and brainwork act in combination, its produce is enormously increased, and when this produce is wisely applied something more is obtained than a reasonable rent, in fact a "living," to those who possess the means and the knowledge to treat the land well. As was observed by the writer of our Farm article last week (page 44), a "better proportion of land to capital" is the great need of the times. The larger the area of land starved by lack of labour or means, the greater the loss individually and to the nation. If large tracts in the hands of one holder cannot be managed without loss, the alternatives are absolute waste or sub-division.

There are thousands of men, if they had plots proportionate to their means, no matter how small or how large, who could yet benefit by their culture; and the greater number who can do this the greater the strength and safety of our nation. Every man who can and will work a plot of land profitably should

as far as is possible be afforded the opportunity. When men who are born on the land, so to say, have no inducements to keep them at home, they flock to the towns to increase the misery there. With far more men working for themselves in a humble, useful, contented way in country villages, the number would be so increased that larger farms could be more cheaply worked by the help that would be readily forthcoming when it could be turned to profitable account, and when not wanted, not requested. This is actually the case where an ample number of small holdings of various sizes cluster around the larger farms.

The striking effects of high cultivation are happily by no means rare. We should not have to go far to find an instance of land which yielded no rent to its owner, but which, after division into small plots, brought him for years and is doing so now—£4 an acre. The workers remain "on the land," bringing up families in homely comfort, and are ready to do a day or week's work for others, when they may be desired. What high culture does in comparison with neglect is demonstrated every year in hundreds of instances by the Surrey County Council. There are plots side by side in various districts in which Continuation School Gardens are provided, all the workers being supplied with seeds in quality and variety exactly alike, yet the value of the produce is 100 per cent. greater in one plot than in another 2 feet from it, and this in dozens of instances. There profit and loss may be seen side by side. It is useless for the few students who fail to blame the climate, soil, or seeds. Doing work well at the time it needs doing is the key to success, negligent or slipshod methods being followed by failure. As in small plots so it is, and must be, in large areas, because the governing factors are absolutely the same. Unfortunately there are far too many examples of failure in most counties, and hence the roctor's refrain—

"Hark to the cry of our English land,
Starved for the want of the human hand."



CELOGYNE CRISTATA.

THIS Orchid is remarkable for its easy culture, freedom of flowering, and endurance of a cool, dry atmosphere when in flower, being, indeed, one that may be removed to the drawing-room or boudoir without fear of injury, and forming a most attractive plant for a period extending over three weeks. It produces drooping racemes of pure white flowers 3 or 4 inches in diameter, with a large blotch of rich yellow in the middle, the veins having a golden crest-like fringe.

It may be grown in pots, in baskets, and on blocks. Plants in small pots or saucers (perforated), and baskets, the latter when neatly mossed being suitable for the table. The pots or baskets should be well drained; half the depth should be occupied with crocks, and the material may consist of equal parts live sphagnum, rough pieces of peat, and charcoal, with a sprinkling of sand, raised in a moderately high cone in the centre, and well pressed down. The pseudo-bulbs may be placed about their own diameter apart, and pegged to the surface, using galvanised pegs, which are quickly made of No. 14 gauge wire. The pseudo-bulbs should not be buried, their base merely resting on the surface of the material. A little live sphagnum may be placed between them, which gives a neat finish. The time to repot or re-surface is just after the flowering is over, or, as a rule, the early part of February.

I prefer to grow this plant on blocks of wood. The size used is 18 inches long and about 9 inches diameter, taking off about one-third longitudinally, so as to form a flat side for suspending against a wall or the end of a house. If the blocks can be suspended clear there is no reason why they should not be round and covered with the pseudo-bulbs, so as to allow little if any more than their own diameter between them. The blocks are of Elm stripped of the bark. I cover them with a little rough peat, then introduce the Celogyne along with the sphagnum, and secure with galvanised nails and copper or galvanised wire. They are suspended any-

where in the stove where there is room and light. The effect of these blocks when the Celogynes are in bloom is charming. The blocks are easily kept moist, as the water needs only to be poured on the top, and there is no fear of water lodging in the young shoots and causing their decay. Water will, of course, find its way to the bottom of the block, so that the upper part will be driest.

During growth the plants must not be allowed to become dry, and copious supplies of water are necessary, keeping them constantly wet from the time the plants begin to grow in spring, and I give a light dash from the syringe twice a day after the pseudo-bulbs



FIG. 7.—CYPRIPEDIUM EURYADES (See page 59.)

begin forming. From February to October they require plenty of water, but when they are of good size water only need be given to keep them from shrivelling. Whilst growing a stove temperature is necessary, or that of the Cattleya house, but in winter they may be kept cool or in a temperature of 50° to 55°, though they will do well enough in a stove temperature, only do not keep them very moist, or premature growth may commence.

Celogyne cristata does well in an ordinary stove, and excellently in an intermediate house; notwithstanding, it is all the better if encouraged when making growth, as a dry atmosphere causes the leaves to become stunted, and as these are so are the pseudo-bulbs and flowers.—ORCHIDIST.

"THE ORCHID HYBRIDS."

UNDER this title the author has prepared an exhaustive list of Orchids raised by cross-fertilisation, which will doubtless prove of interest to anyone concerned in the nomenclature of these plants. Briefly, the system followed in the classification is described by the author on page 69, where he says, "The progeny of two species belong under one name only, and if found to vary sufficient to admit special distinction allow them varietal rank."

Obviously this opens up a long list of synonyms, and these are arranged as a key by which it is easy to find any hybrid desired. Into the merits or otherwise of this system it is not intended to here enter, for the chief value and interest of the book to the general reader lies in the mass of information it contains as to the origin of the many hundreds of hybrids therein mentioned. The date when first raised, the name of the raiser, and the parentage of the hybrid are given under its name. Then come particulars of other places where it has been raised, and in many cases the number of plants, the date when fertilised, and other interesting information, while the synonyms are given in italics. A supplement is added in a like form, and others are promised as they become necessary, so that an up-to-date record of what is being done by hybridists will be the result. The need of such a record

* "The Orchid Hybrids." By Geo. Hansen. Dulac & Co., Soho Square, London.

has long been felt, and it is to be hoped that only on this account the work will meet with success, which it undoubtedly deserves.

A great amount of interesting matter respecting the naming of Orchids in the first eighty pages of the book is marred to some extent by the harsh criticisms indulged in by the author, and in places by a certain coarseness of expression. The majority of British readers are hardly reconciled as yet to such adjectives as "long-ways-down," "daily-fresh-to-order," and such-like, and although this may be our insular prejudice, we think that in a book of this kind they are, to say the least of it, superfluous. Under this questionable surface there are nevertheless many cogent arguments and a good deal of plain, sensible reasoning, so that no one interested can peruse the book without benefit, while the thanks of all orchidists are undoubtedly due to Mr. Hansen for the immense amount of painstaking labour involved in its preparation.

THOUGHTS OF THE FUTURE.

WHILST idly scanning the Journal the other day my attention was directed to the notice of the annual meeting of the Gardeners' Royal Benevolent Institution. This suggested many thoughts of the future, that boundless expanse of time into which we are unable to see with any degree of certainty for even the short space of an hour, and yet which occupies almost the whole attention of the entire community. Unlimited in its extent, inconceivable in its possibilities, and altogether mysterious and unaccountable in its workings and fulfilments, the study of the future is one into which the deeper one goes the more involved one becomes, until after our thoughts are scattered and divided into a chaos of disorder, we are bound to admit our utter helplessness, and how entirely we are in the hands of the Supreme Power which governs it.

After admitting all this, however, the fact still remains clear that the thoughts and anticipations of what lies before us is the spirit that moves this busy work-a-day world; in fact, it is the beginning and end of human existence, and it is not till old age creeps on, and the race is nearly run, that man ceases to worry over the things of to-morrow, and is satisfied with those of to-day.

And yet is not all this natural, quite in order with the perfect machinery of the universe? It is the hopes and anticipations of what is before us that buoys us up and urges us on to strive still more. What is present at one minute, be it pleasant or painful, is past and beyond recall the next, and we find ourselves assuredly, though perhaps unconsciously, looking for the moments that are yet in the future; these, each in its turn, come and are passed on to be entered in the book of time. From this it would almost seem that it is not the past, nor even the present, but the future that is the main feature in human existence. And is it not so? Surely yes, for in catering for the wants of to-day we are to a great extent providing the store for to-morrow.

Nature herself sets the example, for does not the flower blossom in the spring, and by so doing insure the future seed time and harvest? And so it is in the animal kingdom. The lively squirrel, darting from tree-top to tree-top, backwards and forwards, here, there, everywhere, perhaps to the casual observer appears to be doing nothing more than enjoying himself; but look closer, and you will find that he is at work, busily engaged in the preparation of a store of provisions by the aid of which he will be able to withstand the long winter siege.

Passing on to humanity let us for a brief moment pause, stand aside and survey this nineteenth century struggle for existence. What is it that makes competition so keen? Why do men, literally speaking, scramble over the bodies of their brothers in the race as they fall browbeaten and disheartened? Capitalists are scheming, socialists are raving, while all sensible men are up and doing, and what prompts it all? Greed for gold some may answer, love of power and position others may say; but is this really the case? No, I think not; but rather in the majority of instances it is that dread fear of old age and infirmity creeping on, and finding us without provision for it. Yes, that is the true answer. It is the fear that when the faculties are dimmed, and the right hand has lost its cunning, that we may find ourselves at the mercy of a cruel pitiless world, that impels men to throw themselves so impetuously into the battle of life. Thus it is that the weak often go to the wall while the strong prevail.

Provision for the future. This is doubtless the primary question of the working population of the present age, not only amongst gardeners but every other walk in life. Brilliant statesmen have from time to time propounded and framed schemes for state insurance by which all men would be provided for. Socialist leaders by their brush and level system advocate individual independence, resulting in all men being provided for. Of the two the former idea appears to be the most feasible, but even that happy millennium seems a long way off, and while the grass is

growing, so to speak, the horse is starving, and in the meantime gardeners (to whom my remarks will be now confined) should do their best to help themselves by rallying round the banners of the noble institutions connected with the craft.

It may not be stretching a point to say that no other profession or calling is more fortunate than gardeners in having entirely connected with themselves three such beneficial societies. True, other trades have their unions and combinations, by which men are able to assist each other in time of need, and schemes of a similar nature have from time to time been proposed for the mutual benefit of gardeners. The circumstances and conditions, however, are so entirely different that no headway has been made in this direction, nor does there seem any likelihood of it; therefore it is much to the interest of all gardeners to support one at any rate of its institutions—the Gardeners' Royal Benevolent Institution, the Royal Gardeners' Orphan Fund, and the United Horticultural Benefit and Provident Society.

It is not my intention to deal with the rules and benefits connected with any of the above: most gardeners are familiar with them, and a postcard to the respective secretaries will obtain the desired information for those who are not. Suffice it to say that one and all they are founded on sound principles, equal to any and superior to many of their kind in the United Kingdom. The Gardeners' Benevolent Institution, as perhaps all are aware, provides pensions for gardeners who have paid in a certain sum and are not in receipt of a stated income, or by vote if incapacitated from work, without any means of a livelihood. Now it is patent to all that the average income of gardeners at the present day, especially if they have a family to provide for, is not sufficient for them to lay much by for the proverbial rainy day of old age—a day which all thrifty men are anxious to provide for. Then how can it be done better than by joining the above society?

If any class of men have need of such an institution surely it is ours; for is not a gardener's position, even amongst the most fortunate, a sinecure. He knows not what a day may bring forth, through the death of his employer, reduction of establishment, and many other causes known best to gardeners themselves, he may find himself thrown out of employment. It is then that he realises the keenness of competition. He may be months, perhaps years, before he again meets with a suitable situation, and in the meantime he is drawing on his little capital of savings, which have been the results of thoughts of the future. Surely in such cases as these, and there are many of them, the knowledge that old age is provided for by the Gardeners' Benevolent Institution must be gratifying.

On the other hand there is the gardener who has been fortunate in obtaining one of the plums of his calling, in the shape of a first-class situation; he may as he sits philosophically napping by his comfortable fireside pat himself graciously on the back and say, Why need I join this Society? My future is provided for. To such a man I would say, All the better for you, my friend, if it is; but that does not release you from the responsibility of doing something to help those who have been less fortunate in life.

To those young in the craft I would particularly impress the desirability of taking advantage of the facilities afforded for providing for the future. A young man starts on the journey of life full of hope and ambition; a first-class situation as head gardener may be his goal and "Nil desperandum" his watchword. Both days pass pleasantly enough, and then he realises the responsibilities of life. Some are fortunate, others are not, and under the present condition of affairs it must necessarily be the case, as the supply of head gardeners is greatly in increase of the demand. Some may think I am taking a pessimistic view of the affair, but facts are stubborn things, and you who are members of the Gardeners' Benevolent Institution have only to glance at your voting papers as they come round to see the names of those who, after years of hard and honest labour, find themselves without the means of obtaining even the common necessities of life. Some obtain the coveted positions on the pension list, others are doomed to disappointment. And why? Simply because the funds of the Society are not sufficient to meet all demands. If gardeners throughout the country would only realise more fully the importance of supporting these societies, both for the benefit of themselves and those around them, what a much happier condition of things would be brought about. That they have made rapid strides in a few years is very gratifying, but the fact, pitiable as it is, still remains—that the doors have to be closed to many deserving cases through want of funds.

The Royal Gardeners' Orphan Fund is as worthy as it is unique, its mission being to fulfil the Divine command in providing for the fatherless and the widow. Many a gardener is struck down by the cruel hand of Death early in the battle without having been able to make any provision for the wife and family he leaves

behind. Such cases are no mere figures of imagination; real they are, and occurring every day, as many know to their cost—the struggling widow and helpless children: what is to become of them? Then steps forward this Institution and says, “I will help you,” and help it does, as we all know, and would do more but for the old, old reason—lack of funds. I know of no society more noble than this, helping, as it does, those who are unable to help themselves.

It is the duty, then, of those more fortunate in life to hold out the hand of assistance and push forward the good work of this Institution. Though still young much good has already been done by the Gardeners’ Orphan Fund in assisting to make respectable men and women of those whose future without its aid holds out such possibilities that you and I shudder to think of.

Different in its objects, but no less useful and worthy of support is the United Horticultural Provident and Benefit Society, whose work has been more than once enlarged upon in this Journal. In character it is somewhat similar to such societies as the Hearts of Oak and the Oddfellows, while its benefits are said to be even greater. It provides amongst its benefits help in case of sickness, with the provision of an accumulation fund, while the payments required are such as most gardeners can afford. It has often been said there is little co-operation amongst gardeners, and indeed in the case of our benefit societies there is room for much more. Powerful they are we admit, but how much more so would they be if the whole horticultural community would give the support they deserve, and by so doing render practical these thoughts of the future.

How sad it is for a gardener, after long years of toil, to find himself in his old age face to face with what?—the workhouse, an establishment of which everyone holds an honest dread, and justly so, for though our poor laws have been greatly improved since the days of Bumbleism, a system which separates man and wife in their old age has not much to commend it. We do not like to think of such an end to a perhaps useful life, but it is no mere sentiment, as many gardeners would have found themselves in such a position but for the assistance of our benefit societies. These lines are therefore penned to advocate their support, and gardeners will do well to consider these points when their minds are occupied with thoughts of the future.—G. H. H.

FRUIT CULTURE SIXTY YEARS AGO.

REALLY the year 1834 was sixty-two years ago, therefore it is to that date a far cry, and when to that fact is added the other that a book before me on fruit culture so long since was the product of a writer eighty-three years of age, we seem to be carried back to the beginning of the century, although the author appears to have brought his observations up to date. The book was given me just recently by a friend, and I have found it to be of singular interest, not only because it is one of the best of the old books devoted solely to fruit culture, but also because it was written by John Rogers, formerly of the Royal Gardens, and grandfather of the present proprietor of the Red Lodge Nurseries, Southampton, Mr. Alderman Rogers, J.P., at which delightful place the book was evidently written.

We find of Apples a list of 140 varieties. Some are cider Apples, and not a few are to-day almost out of cultivation. Still, a considerable number is found that rank well at the present time, as a selection will presently show. The descriptive notes attached to these varieties by the author are somewhat voluminous and most interesting; indeed, he seems to have been personally acquainted with the origin of not a few of them. Of Pears there are fifty-one sorts, of which about a dozen are still well known and widely grown; of Grapes twenty-eight varieties, the best known of them now being White Sweetwater, Black Hamburgh, Muscat of Alexandria, and the Frontignans. There is a list of sixty-four Gooseberries furnished, the best known of which now are Champagne, Iron-monger, and Pitmaston Greengage, of small fruiters; and Red Warrington, Crown Bob, and Whitesmith, of larger varieties. Currants get little notice, none others being mentioned but Red, White, and Black. Oddly enough the author in his notes descriptive of pruning these treats all alike; happily, we know better now.

Only six varieties of Raspberries are mentioned, the best of them being Red and White Antwerps. There is a much more formidable list of thirty-three Plums, those best known of to-day being Green Gage, Purple Gage, Orleans, Nectarine, Coe’s Golden Drop, still the best late variety; the White and Red Magnum Bonums, Kirke’s Blue Impératrice, and the old and Prune Damsons. We have advanced materially in relation to Plums as well as other fruits since 1834. Of Strawberries there are thirty named, but not more than three now exist, the Grove End Scarlet,

the best for preserving; Carolina superba, still found in gardens; and Keen’s Seedling, also grown, but largely for forcing as well as for outdoor picking. The author refers to it as being new, hence we may hold that it has been in existence some sixty-five years.

Reverting to the Apple, we learn that the different characteristics of the Broad-leaved or Dutch Paradise and the French Paradise stocks were well understood by the author, thus showing that there is little that is new to be said of that tree. Strong is his remonstrance against deep planting, many orchards then having been ruined through that practice, and to-day we have to urge as strongly as ever the same advice. Better, says Mr. Rogers, “lift and replant the trees more shallow than allow them to remain.” Even in that long ago the competition from France and America had forced itself on the writer’s notice, for he remarks, “The great quantities of Apples imported from France and America is certainly a national loss, more especially as there is so much vacant British ground, well calculated for the growth of the Apple, now lying waste.” We are saying the same thing to-day, only with much greater force, yet there seems to be even greater need for such preaching than there was sixty years ago.

The espalier form of trained tree, one to-day far too much overlooked, is in great favour with the author, who also refers to the efforts made to grow some of the finest flavoured Apples on wall trellises, but not with success. “Under the impression that this situation of the bearing wood (on trellises several inches from the face of the wall) was in a kind of mitigated temperature suitable for maturing the fruit, the late Earl of Holderness, when in possession of Sion Hill, Brentford, had all his extensive south wall trellised according to the Continental method, and a Dutch gardener to manage the trees. But neither was the idea of the Earl realised nor the skill of the gardener effectual. After a fair trial the plan was abandoned, the trellis removed, and the trees placed close to the wall, where they flourished and bore fine crops.”

Referring to espalier-trained trees, we are told that Sir William Temple had an extensive assortment of all the best Apples and Pears obtainable, planted at Sheen, Surrey, in parallel ranks running east and west, which uniformly produced abundant crops for the space of eighty years. Another successful instance of espalier culture was that of Secretary Johnston at Twickenham, where prodigious crops of fruit were produced. The author thought even so long since that names of the same variety were too much multiplied, especially of Apples and Pears. He ventures to advise “the Horticultural Society to admit not another sort into their collection unless it can clearly be made to appear that it is superior to every one already in possession.” That is advice that still needs acting upon. His suggestion that the Society’s medals be given rather for the greatest successional crops than for mere samples he yet admits difficult to carry out.

Turning to the list of Apples the old Hawthornden heads it, and is highly praised. To-day this famous Apple lies low. The Red Quarrenden has a high position as a dessert fruit; Flower of Kent, one of the largest Apples of that day, is still a favoured variety in many localities. The pretty German Borsdöffer Apple, recently figured in the Journal, is here called the Bursdoffe or Queen Charlotte Apple, having been a great favourite with that lady, who had it introduced into England. A rather lengthy story with respect to that event is recorded in the book, Emperor Alexander of to-day is simply Alexander to Mr. Rogers, who mentions the grower, Mr. Lee of Hammersmith, as having introduced it from Russia. Margil has been with us so long that the author had known it seventy years. Hoary Morn, not Morning, is also mentioned, and seems to be of Devonshire parentage. It was then, as now, noted for its dense bloom. Amongst Codlins the Dutch, Keswick, Manks, and Kentish are all highly favoured. Braddicks and the Scarlet are still amongst the best Nonpareils. It makes one’s mouth water to read of good samples of the latter selling in Covent Garden Market at 2 guineas per bushel. The variety was first discovered at Esher, a single tree being found in a garden by Mr. Grimwood, then a Kensington nurseryman. Of Pippins the Cackle, Kerry, Fearn, Newtown, Ribston, Blenheim and King, were all esteemed good then. Nothing is said as to the origin of the famous Blenheim. The King, Mr. Rogers thinks, a pompous title; but it is still one of our best dessert and market Apples.

As to the Ribston Pippin, it is said, “Hargrave in his ‘History of Knaresborough,’ speaks of the place as remarkable for the production of a delicious Apple called the Ribstone Pippin, the original tree of which was raised in the year 1688 from the seed of a Pippin brought from France.” The author saw the original tree bearing a crop of fruit in 1789, though then showing signs of decay. Twenty years later it was blown down. The old Royal Russet, Cobbett’s Fall Pippin, Yellow Ingestrie, and Norfolk Beaufin, are among varieties mentioned yet well known. The matter of the

book is exceedingly interesting, looked at from to-day's knowledge, but it is certain that Mr. John Rogers was one of the keenest observers in regard to fruit culture of some sixty years since.—A. DEAN.

HOTBEDS AND THEIR USES.

HOTBEDS do not play so important a part in the production of garden crops as they did half a century ago, and judging by what those sturdy veterans of the old school of gardeners tell us, we may be thankful that things have changed, for their description of the immense amount of work and constant attention necessary to produce very early crops of Melons and Cucumbers in frames, I think quite justifies the assumption that horticultural progress has in many respects brought brighter times to the rank and file of its workers.

Cheap glass structures, and improved methods of heating them, have rendered forcing of all descriptions a comparatively easy matter. Still there are instances innumerable in which hotbeds are of immense service to the cultivator, and I have strong doubts about their ever being entirely dispensed with. It is therefore necessary that all young gardeners should know how to make them properly, and that others should at this season be reminded of the many uses to which hotbeds may be put.

In preparing the materials it is a good plan to have two heaps, one for beds in which it is necessary to maintain a brisk heat, the other for beds in which a constant but only gentle heat is required. In the former two parts stable manure should be mixed with one of leaves, in the latter the leaves ought to form rather the larger proportion. In selecting the stable manure for this purpose give preference to that which is moderately fresh, moist and full of heat, rejecting any very dry, long, strawy and exhausted parts.

After carting this, together with a sufficient number of leaves, to the frame ground, the whole is ready for mixing. In doing this separate the materials thoroughly with a fork, and throw into a conical shaped heap. After four or five days this should be turned over and again well shaken as the work proceeds, so as to allow the rank steam to escape. In some instances a second turning will be necessary after a couple of days, because it is always desirable to avoid a violent heat after the bed is made up, as this causes the material to become dry in the centre, and the heat declines as rapidly as it rose.

When making up hotbeds for Cucumbers and Melons, or for rooting cuttings of soft-wooded plants, provision must be made for renewing the heat by means of linings. With this object in view the bed should be only a few inches wider all round than the frame to be placed on it. Tread the materials very firmly as they are placed on in thin layers, and when completed the back ought to be from 5 to 6 feet in height and the front a foot less. After placing the frame in position drive some long stakes into the bed, close to the inside of the frame.

Against these place boards a foot in width, letting them rest against the stakes. When the soil is added these boards will be kept in position and a space of an inch or so secured between them and the inner side of the frame. This space will allow some of the heat to escape from the bed and maintain a uniform top temperature. Whenever the heat shows signs of declining a lining 2 feet in thickness ought to be placed round the bed, and carried to the top of the frame. These usually require renewal about once a fortnight.

During February and March, if the weather is not exceptionally severe, beds made up in this way and covered with 6 inches of cocoa-nut fibre refuse, instead of soil (as in the case of Cucumbers), are exceeding useful for rooting cuttings of Lobelias, Alternantheras, Ageratums, Verbenas, as well as those of many other plants. At that season the propagating house is usually taxed to its utmost capacity, and a homely hotbed and frame of the old type, as above described, is by no means to be despised.

Hotbeds made for forcing Rhubarb, Asparagus, Carrots, and Radishes, and Potatoes seldom require the addition of linings. The bed should, therefore, have a margin of 2 feet all round the frame, when this is placed on it. This allows plenty of space for walking round the frame when attention is required, and also by giving greater bulk to the bed helps to maintain a steady heat for a long time. Hotbeds of this type are also admirably adapted for raising early plants of Cauliflower, Lettuce, Cabbage, Leeks, Celery and Parsley.

In addition to hotbeds of the above descriptions there are the simpler ones formed in pits—for in all well-appointed gardens there exist a number of brick pits—unheated; these are especially adapted for growing early Potatoes, Carrots and Radishes, or for raising half-hardy annuals. When filling these all that is necessary is to procure the fermenting material from the prepared heap in which the leaves form the greater proportion, place this in even

layers, and tread firmly as the work proceeds. When completed a layer of soil should be placed on the surface at once, so as to become thoroughly warmed before seeds are sown or Potatoes are planted, in all instances inserting a stick deeply into the fermenting material. This must be examined daily to find out when the heat begins to decline. All is then safe for the reception of seeds or plants.

I ought to add that the usual and necessary precautions of leaving (for a few days) a chink of air on the back of the lights should be taken to allow the rank steam or ammonia to escape, otherwise disaster will be the result if plants with tender foliage happen to be placed in the pits or frames.—W. D.

PROPAGATING VINES.

ANYONE with even limited convenience need not experience much difficulty in raising Vines. There are several methods of propagating, but the best is from eyes. They should be selected from Vines true to name, healthy, and fruitful. The wood must not be too strong or contain much pith, neither must it be too weak. Medium-sized hard growths are the best. The eyes ought to be inserted as soon after the first week in January as possible. In preparing them select a suitable bud, one that is round, not pointed, and with the protecting skin unbroken. Hold the eye firmly in the left hand, and with a sharp knife cut the under side of the shoot in a slanting direction, terminating about 1 inch from the bud. Reverse the shoot, and cut in a similar manner in the opposite direction. Pare the edges of the bark smoothly, as this will facilitate root formation. Insert each eye in a clean, drained 2½-inch pot three parts filled with a compost of two parts fibry loam, one part of leaf soil, and a sixth part of silver sand passed through a fine mesh sieve. Press the soil down firmly, and let the bud just show above the surface. If the soil is moist, as it should be, only a light sprinkling of water will be required to settle the particles round the eyes.

Plunging the pots in ashes, sand, or cocoa-nut fibre refuse on the stage of the greenhouse or vinery will maintain the soil in a moist state. Two or three weeks afterwards transfer to a hotbed or any place where bottom heat of 60° can be had to start with, increasing it to 70° in two or three weeks time. The soil must be maintained in a moist state with tepid water, and we must strive for free growth from the time when the bud makes its first signs of life. When the pots are nearly full of roots, and the plants from 1 to 3 inches high shift into 4-inch size, using the same kind of compost as before, but rougher with the addition of a small quantity of partly decomposed horse manure. The pots must be carefully drained, and the soil warmed to avoid a check to the tender roots. Return the pots to the bottom heat position for a time until new growth is made at the roots, afterwards a position near the glass will answer best, and if a moist base can be provided so much the better. On no account must the roots be allowed to suffer by want of water, or red spider and thrips will soon attack the foliage.

When the roots reach the sides of the pots, but before the Vines are in any way root-bound, larger sizes must be provided for them. Those 10 inches in diameter are best for the stronger plants, pots an inch less sufficing for the weaker. The compost for this potting should consist of three parts fibry loam and one of partly decayed horse manure, with a sprinkling of ground bones and crushed lime rubble. A depth of 2 inches of drainage should be provided, and this well protected with turf. In potting allow at least 1½ inch of space at the top for enabling sufficient water to be given, as much will be required when these pots are filled with roots.

Secure the growths to stakes in a sunny position, so that the canes will be short-jointed and firm. The temperature should not fall below 60° until growth is completed in the autumn. Draughts of cold air must at all times be avoided, as they predispose to mildew, which is about the worst enemy a Vine can have. The foliage should be syringed twice daily with tepid water, closing the house early to insure a moist atmosphere, which Vines enjoy; they equally appreciate abundant supplies of fresh air when admitted in a proper manner.

When the pots are full of roots copious supplies of weak liquid manure may be supplied alternately with clear water, all lateral growths being promptly pinched off, retaining the upright growth of the stem intact. When the canes by their colour show signs of ripening and the leaves of maturity, syringing should cease. Abundance of air ought to be admitted day and night for two or three weeks, and afterwards the Vines may be placed out of doors, standing the pots on a thick bed of coal ashes or boards at the foot of a south wall for completing the ripening of the wood. The canes should be secured to the wall, the roots kept moist, but not wet, as an excess of water would defeat the object in view.—E. MOLYNEUX.



WEATHER IN LONDON.—Mild weather still continues in the metropolis, forming a great contrast to the corresponding week last year. Rain has fallen heavily at intervals during the last few days, but at the time of going to press, though somewhat threatening, it is fine, with the atmosphere clear and genial.

— WEATHER IN THE NORTH.—The week ending the 14th inst. has been marked by fine seasonable weather. There has been more or less frost on most mornings, 7° on the 9th, 9° on the 10th, and 7° on the 11th. The days have generally been bright and sunny, Sunday being an exception. Tuesday was a beautiful, calm, cold day, with 3° frost.—B. D., *S. Perthshire*.

— THE MILD SEASON.—As an evidence of the mild weather, it is interesting to hear that last week a bunch of Primroses, numbering over forty flowers, was gathered in one of the woods in the neighbourhood of Clevedon, while Pansies, Stocks, and Violets are still in bloom.

— DEATH OF MR. WM. JORDAN.—Readers of the *Journal of Horticulture* will, I am sure, be sorry to hear of the death, on the 12th inst., at St. Austell, Cornwall, of Mr. Wm. Jordan, steward to J. Nix, Esq., Tilgate, Crawley, Sussex. Deceased was some twenty years ago gardener to J. Boustead, Esq., Cannizaro House, Wimbledon, and was well known as an exhibitor at the Kingston and Wimbledon exhibitions. He also won a silver cup at the National Chrysanthemum Society for a stand of twelve Japanese, new varieties, when these were just coming into general cultivation. He entered the service of his late employer as gardener, and rose, by his ability, to be bailiff, and then steward over the whole estate. Mr. Jordan had been in failing health for some time.—C. ORCHARD.

— THE HESSLE GARDENERS' MUTUAL IMPROVEMENT SOCIETY.—At a meeting of the above Society, held January 7th, a paper was read by Mr. F. Mason, gardener to A. Smith, Esq., West Hill, on "Roses and Their Cultivation." In commencing, the essayist briefly described the various uses to which this, the queen of all flowers, can be put, while Roses may be grown more or less in every garden, no matter what may be the dimensions. After dealing with their propagation and planting Mr. Mason described methods of pruning. Judgment, he said, must be used in this. You must know your varieties before you can hope for success in this matter. The end of March or the beginning of April is a good time, some requiring hard pruning, others only the weak wood removed. The cultivation of Roses in pots and otherwise in houses, was also ably entered into. A good discussion followed. Votes of thanks to the essayist and Chairman concluded the meeting.—F. L. T.

— PRESENTATION TO MR. WILLIAM COOMBER.—A meeting of exhibitors and judges at the exhibition of the Royal Botanic Society, took place at the Albert Hotel, Victoria Street, S.W., on the 14th inst., among those present being Messrs. H. J. Veitch, G. Paul, H. Williams, J. Laing, H. Cutbush, J. O'Brien, H. Appleby, R. Dean, J. Hudson, J. Jaques, G. Wythes, G. Reynolds, and G. H. Richards. A preliminary statement was made by Mr. Jesse Willard, the convener of the meeting, to the effect that Mr. Coomber had been dismissed from the post of Superintendent of the Gardens of the Royal Botanic Society on the ground that in the straitened circumstances in which the Society finds itself a considerable saving is necessary, after having filled that position for the space of twenty years, and without any pension or retiring allowance. He thought the circumstances of the case justified him in calling together a few of Mr. Coomber's associates in the exhibitions and friends to take the matter into consideration, and he desired to thank those present for responding to his invitation. It was resolved that a fund be opened for making a suitable presentation to Mr. Coomber; that those present form a Committee, with power to add to their number; that Mr. J. Willard be requested to act as Secretary and Mr. Harry J. Veitch as Chairman and Treasurer; that a circular be prepared and sent to the Fellows of the Society and others; and that the presentation take the form of a purse of money. The sum of £36 15s. was subscribed in the room, and regarded as a very satisfactory beginning. A hearty vote of thanks was passed to Mr. J. Willard for convening the meeting, and to Mr. H. J. Veitch for presiding.

— SINGLE ROSES.—In our reference to the "Rosarian's Year Book" last week we inadvertently credited Mr. George Paul, the well-known head of the Cheshunt firm, with the authorship of the article on single Roses, instead of his son, Mr. George Laing Paul. It is a credit to him to be mistaken for his father either in literary or practical work.

— THE LATE SIR JULIAN GOLDSMID.—We omitted to record the death of this gentleman in our last week's issue. Sir Julian, who died on the 7th inst. in his fifty-eighth year, was President of the Gardeners' Orphan Fund, which has made such excellent progress and done untold good since its establishment in commemoration of Her Majesty's Jubilee in 1887.

— A NEW OPEN SPACE FOR BATTERSEA.—Close to Old Battersea Church there was a bit of the Thames shore which at low water was always covered with mud. A strong concrete embankment has been erected, and the land is to be converted into a recreation ground. The Metropolitan Public Gardens Association have contributed £1000 towards the laying out of the ground. There will be a fountain, plenty of shrubs and trees, and the garden seats will be placed so as to overlook the Thames.

— WREST PARK GARDENS.—Mr. G. Ford, head gardener to Earl Cowper for twenty-six years, has retired, and his successor is Mr. G. Mackinlay, for some years head gardener to Sir Charles Isham, Bart., at Lamport Hall, Northants. Mr. Ford, who was connected with Wrest Gardens for nearly fifty-eight years, and was appointed head gardener on the death of his uncle, Mr. Snow, still resides in the park, occupying the cottage for many years the residence of the late Mr. Thos. Taylor, and that he may have in his retirement many years of health and happiness is the sincere wish of his many friends.

— NEW YORK GARDENERS' SOCIETY.—We learn that an Association of this name was organised in New York on December 21st by representative private gardeners from Long Island and many other sections of New York State, New Jersey, and Connecticut. The following officers were elected to serve one year:—Mr. J. M. Logan, President; Messrs. William Plumb, Charles Webber, Peter McDonald, Vice-Presidents; Mr. William Anderson, Treasurer; Mr. J. I. Donlan, Secretary. A Committee to draft rules and by-laws was formed, with Mr. William Falconer as Chairman. Such an association ought to be useful in many directions, and it ought especially to be helpful in giving variety to future flower shows in this city, which have hitherto mainly consisted of plants and flowers exhibited by commercial growers to the exclusion of the rarer plants and well-grown specimens which are alone to be found in private collections.

— BIRKENHEAD GARDENERS' MUTUAL IMPROVEMENT SOCIETY.—It is only a short time since the above Society was formed, yet the progress has been almost phenomenal. It may be truly said that it is not an easy matter to find a good secretary, but in this Birkenhead has been most fortunate, for in Mr. T. D. Smith they have a gentleman whose one aim is to do things well. On Wednesday evening a soirée was held in the Y.M.C.A., when 100 gardeners, with their families and friends, numbering in all over 400, sat down to an excellent knife-and-fork tea, James Gamlin, Esq., T.C., presiding. Afterwards the Secretary gave a short account of the work being done. During an existence of eleven months 120 members had been enrolled; a permanent meeting room had been secured in the Y.M.C.A., where fortnightly meetings had been held for the discussion of various subjects. At 13, Belmont, Oxton Road, a comfortable reading room had been provided, which was opened free to all members, who had the use of all the leading publications on gardening matters, also the Liverpool and Birkenhead papers. Every Tuesday evening a botany class was held, and greatly appreciated, especially by young members, the latest addition being an annual Tontine Society for the benefit of members only. The question now occupying the attention of the Committee was that of a good library of the best standard works on horticulture, and when this object had been attained they would be on an equal footing with any such Association in Great Britain. The Association has been fortunate in securing ready financial help from gentlemen in the neighbourhood. The Chairman congratulated the members on the wonderful success of their efforts. Mr. J. Smith, in moving a vote of thanks to the Chairman, congratulated the Soirée Committee on its choice of a Chairman. It may be mentioned that, for those who did not care to dance, an excellent concert had been provided in the lower room, also that the Committee regrets having had to refuse many applications for tickets, the demand for them exceeding the available space in the hall.—R. P. R.

— **GEORGE WASHINGTON'S CYCAS.**—At a recent sale in New York, says a contemporary, a plant of *Cycas revoluta*, said to have belonged to George Washington, was sold for 340 dols.

— **FRENCH HORTICULTURE.**—The great show of the National Horticultural Society of France will be held in Paris, in the garden of the Tuileries, from May 20th to May 25th. As the show opens one day later than the opening of the Temple show, it will be possible to visit both exhibitions in the same week.

— **EUROPEAN CHESTNUTS IN AMERICA.**—An American contemporary says, "Several varieties of the European Chestnut have come into cultivation in this country during the past few years, among them the Numbo, which is sometimes said to be an offspring of our native Chestnut and sometimes of the Japanese species, but it is really European. The burs are usually single, and this is, perhaps, one reason why the Nuts are so large. The Numbo will weigh two or three times as much as the so-called Spanish Chestnuts, and it is, therefore, more popular. The Paragon will average about twice as large as our ordinary wild Chestnut, and it is a most promising variety."

— **ASPARAGUS IN BERRY.**—The exceeding scarcity of Holly berries this year has drawn keen attention to the provision of substitutes. Till within the past few days I had no conception of the very useful part that berried growths of Asparagus could play at Christmas. When the vegetable exhibition was held at Chiswick on September 10th, one exhibitor employed a quantity of berried Asparagus growths to decorate his collection. A good handful was given to a friend living close by who set these growths up in vases just as they were without water. So recently as Boxing Day I saw these growths that had been from that time, fully three and a half months, kept in an occasionally used living room, and they were singularly fresh, not a berry having fallen or shrivelled, and the foliage only partially fallen, but what was left was still green. These sprays of berries, intermixed with a few evergreen sprays and white Chrysanthemums, were really charming. I was much surprised to find how remarkably well the Asparagus had kept. No doubt it was largely due to having been gathered when just mature, and also to so far having been kept in a fairly cool room, and without water. It is a fair question to ask whether anyone has tested the keeping powers of Asparagus in this way generally for both private use and market sale. If so generally satisfactory, would it not pay to cut the growths that are in berry just at the right time, and store them in a cool place for use at Christmas? When set up in rooms it is but needful to give the growths a gentle shake once a week to keep them clean.—A. D.

— **SOCIÉTÉ FRANÇAISE D'HORTICULTURE DE LONDRES.**—The seventh anniversary of this Society was celebrated on Saturday last by the annual dinner, at which Mr. Harman Payne presided, being supported by several English horticulturists. After the dinner was over Mr. George Schneider introduced the Chairman to the company present, gracefully pointing out the services he had rendered to French horticulture by reason of his position as Foreign Secretary to the National Chrysanthemum Society and in other ways. In reply the Chairman acknowledged the remarks which Mr. Schneider had made, and pointed out that the French Horticultural Society was making great progress both numerically and financially. In 1890 there were only eighty-nine members, while this year they could count as many as 222, all of whom were deeply interested in the welfare of the Society. There was also cause for congratulation in the state of their finances. Mr. Payne then made a few remarks on the subject of the Chrysanthemum, and the manner in which the flower had been dealt with by the French raisers, the competition they had had to sustain, and the way in which they had proved themselves to be capable of maintaining their reputation. Allusion was also made to the founding of the new French National Chrysanthemum Society, and the hope was expressed that it might do useful work. A tribute was paid to Mr. G. Schneider for the perseverance and energy with which he has continued to labour for the benefit of the Society. The Secretary also testified to the valuable services as President which Mr. Schneider had rendered, and that gentleman suitably replied. Mr. Cutbush replied on behalf of the visitors, and the gathering, which was an unusually bright and cheerful one, was enlivened with songs by the members. It might be useful to mention that the Society seeks to find situations in England and France for young gardeners of either nationality, and is thus doing a good work in promoting good feeling between all persons engaged in horticulture. Membership is confined to those whose mother tongue is French, such as Belgians and Swiss. The Society also possesses an excellent horticultural library for the use of its members.

— **IMPORTS OF ORANGES.**—Seville Oranges are being imported in large quantities into Manchester, and a brisk demand for these fruits for preserving is expected. During the present and following months many shiploads of bitter Oranges will leave Seville for Manchester; even at the present time these Oranges are cheaper at Manchester than on any previous occasion.

— **MEYENIA ERECTA ALBA.**—This species forms dwarf, bushy specimens, and bears almost continually flowers of a deep violet-blue. The variety alba is as yet a rare plant, with almost pure white flowers, but they have a faint tint of purple in the tube, and the throat is a rich orange. In size and shape they do not differ from those of the species. On account of the colour this beautiful variety is even more valuable and effective than the parent form, and will prove an interesting addition to the list of plants for conservatory and house culture. The *Meyenia* begins flowering while quite small, almost as soon as the cuttings are well rooted and established in pots.—("Garden and Forest.")

— **SUMMARY OF WEATHER OBSERVATIONS FOR THE YEAR 1895.**—The year was chiefly remarkable for the very severe frost in February and the dry periods in May and September. No frost occurred while fruit trees were in flower, and the crops of all kinds were abundant. Tender flowers and vegetables were killed by frost on October the 17th. The prevailing direction of the wind was W. on 104 days. Total rainfall, 23.08 inches, which fell on 213 days, the greatest daily fall being 0.99 inch on January the 20th. Barometer, highest reading, 30.380 at 1 P.M. on May the 2nd; lowest, 28.462 at 1 P.M. on March the 28th. Thermometers, highest in the shade, 84° on May the 30th and June the 26th; lowest, —3° on February the 8th. Mean of daily maxima, 55.41°; mean of daily minima, 39.43°. Mean temperature of the year, 47.42°. Lowest on the grass, —8° on February the 8th; highest in the sun, 147° on June the 22nd. Mean temperature of the earth at 3 feet, 48.36°. Total sunshine, 1609 hours 45 minutes. There were sixty-four sunless days.—W. H. DIVERS, *Belvoir Castle Gardens, Grantham.*

— **LIVERPOOL HORTICULTURAL ASSOCIATION.**—On Saturday evening about 130 members of the above Association met under the presidency of W. Fletcher Rogers, Esq., at the Adelphi Hotel, Liverpool, to celebrate the ninth annual dinner and social evening. The tables looked especially pleasing by the admirable arrangement of flowering plants and cut flowers sent for the occasion by friends. After the repast Mr. Rogers gave the only toast on the programme—viz., "The Queen and Royal Family," and which was received with more than usual fervour. Afterwards the company enjoyed a capital two hours musical programme, Messrs. Ker & Sons with their usual generosity providing in other ways for the comfort of all present. In omitting toasts, which had in former years occupied a place on the programme, the Committee thought that they might be appropriately brought forward at the annual meeting, which will be held in the Free Library at the end of January. As a member of the Association who for the past five years has tried to keep all matters fully up to date in the Journal, I appeal to all members having the welfare of the Association at heart to be present, for there are certain to be important resolutions brought forward requiring calm and careful consideration.—R. P. R.

— **TORQUAY GARDENERS' ASSOCIATION.**—At the annual dinner of this Association, on the 8th inst., Dr. Hamilton Ramsay presided over a company numbering between seventy and eighty. The vice-chair was occupied by Mr. W. B. Smale. In giving the toast of "The Association," Mr. Masterman said it had been successfully carried on for four years. One proof of its vitality was that it had undertaken the organisation of public shows, the first held under its auspices having been extremely successful. Mr. G. Bedford, Hon. Sec. to the local Technical Education Committee, acknowledged the kindness of the Association in permitting the pupils to exhibit at its show. The class had twenty-four members between whom an acre and a quarter of land was divided, the idea being to teach them the practical management of a working man's garden or allotment. During the summer, instruction was given on the ground, and in the winter lectures were delivered at the School of Art. Responding, Mr. F. C. Smale read a letter from Major Grahame, a late member of the Association, who prophesied that in a short time—after Scotland—Torquay would have the honour of producing the best gardeners in the world. Mr. Smale went on to say that the membership had been fully maintained, and the Association compared favourably with any similar organisation in the county or in England.

— **THE AGES OF TREES.**—This subject is of great interest, and it is often to be regretted that records of planting have not been kept during the past. Germany possesses many old trees, and according to Herr Gericke, a celebrated German forester, some have lived 570 years. The Silver Fir in Bohemia lives to the age of 400 years; the Larch in Bavaria reaches 275 years. An evergreen Oak of Aschoffenburg was 410 years old, and a Red Beech at the same place was 245 years old. Ash of 170 years, Birch of 200, Aspen of 220, Maple of 225, Elm of 130, and Red Alder of 145 years are also known.

— **RAILWAY RATES.**—Market gardeners and agriculturists in the West are still determined to leave no stone unturned to bring about a modification of railway rates in connection with the Great Western such as have been made by other railways; and Sir Cameron Gull, M.P., their champion, is following up the scheme with commendable determination. Sir Cameron argues, with much truth, that the position of market gardeners and agriculturists in comparison to their foreign rivals is a serious grievance of long standing, and one to be redressed by the establishment of equality of rates for the carriage of produce.

— **PLANE TREES IN FRANCE.**—The Plane trees in some of the French promenades have been shedding their bark and drawing to themselves the attention of the police. The story goes that a certain prefect of police issued an order threatening to deal severely with all who should be convicted of stripping the bark off the Plane trees. Trees thus mutilated present a most unpleasant sight, observed the prefect. Notwithstanding the order, says a contemporary, the bark continued to be mutilated, and not until a subordinate was consulted did the prefect learn of the habit these trees have of shedding large portions of their bark annually. This "order" was certainly a big one.

— **REINWARDTIAS.**—These are fine, old-fashioned East Indian mountain plants, belonging to the Flax family, of a dwarf shrubby habit, and producing a wealth of yellow flowers. Reinwardtia (*Linum*) trigyna is the best of the species commonly grown. The leaves are alternate, small, ovate-oblong, entire, with a mucronate apex and a smooth glaucous green surface. The flowers are 2 inches across, bright orange-yellow, solitary or in small clusters from the axils of the upper leaves, and very numerous. The delicate petals are spreading and connate at the base. This beautiful winter-flowering greenhouse plant is easily increased by means of half-ripe cuttings from the tips of the shoots. They can be rooted in a slight bottom heat in the ordinary way. *R. tetragyna*, although not as showy as the first named species, is one of our best plants for the parlour and window and home culture generally. Although quite as dwarf as *R. trigyna*, it is a coarser plant and, if possible, it is easier to propagate. It has, says the "Garden and Forest," rather long, broadly lanceolate acuminate leaves, with well-marked veins and coarsely crenate. The stem is stout and erect, and the pale yellow flowers are produced in few-flowered fascicles or singly from the axils of the leaves. These are rather smaller than those of *R. trigyna*, but equally numerous. Both species are low-growing, dwarf plants, and they form compact bushy specimens if the young plants are frequently pinched during the summer. Although the petals of these Reinwardtias are fugacious, the flowers are produced in such abundant succession that both of them make a good show for five or six weeks in midwinter when yellow flowers are scarce.

— **GRAND YORKSHIRE GALA.**—The annual meeting of the guarantors and life members of the Grand Yorkshire Gala was held recently at Harker's Hotel, York, Alderman Sir Joseph Terry presiding. There was a large attendance. The Chairman said that the Council had waited upon the Bootham Asylum authorities, who had granted the use of the customary field for the Gala on the 17th, 18th, and 19th of June next on the usual terms. Subsequently they waited upon the Lord Mayor and had had a very interesting conversation with him. Mr. Ald. Milward had been associated with the Gala for some thirty-six years, and had taken a great interest in the annual fête. His lordship had consented, as previous Lord Mayors, he believed, had done without exception, to become the President of the Gala Committee for the ensuing year. The City Sheriff (Mr. W. H. Jalland) had also been interviewed, and had intimated to Mr. Simmons his willingness to become a life member of the institution. He regretted to say that the Lord Mayor, Mr. Ald. Border, Mr. Councillor A. Jones, Mr. W. S. Sharp, Mr. J. J. Hunt, and Mr. G. Garbutt were unable to be present with them that evening from various causes. Concluding, Sir Joseph moved that the Lord Mayor be elected President of the Gala for the ensuing year. Mr. J. W. Craven seconded the motion, which was carried unanimously. Mr. Councillor Lancelot Foster proposed that Ald. Sir

Joseph Terry be re-elected Chairman of the Council, and paid a tribute to the admirable services he has rendered in years past. Mr. Geo. Kirby seconded, and the proposition was carried. Mr. Edward Rooke was elected Vice-Chairman; Mr. Joseph Wilkinson, Treasurer; Mr. C. W. Simmons, Secretary; and Messrs. Pearson and Taylor, Auditors, for the ensuing twelve months. The Floral, Entertainments, and Finance Committees having been appointed, the following grants were made:—Floral, £600; music, £200; fireworks, £130 (an increase of £30); balloons, £60; and amusements, £175. On the proposition of the Chairman, seconded by Mr. Geo. Balmford, the City Sheriff (Mr. W. H. Jalland) was unanimously elected a life member of the Gala Committee, and the proceedings terminated with a vote of thanks to the Chairman.

— **AGAVE VIVIPARA.**—This grows wild in Bombay, and is mainly used as a hedge plant in making line fences, no systematic attempt at its cultivation for fibre having yet been made. Though the industry has been making progress for many years, there are, it appears, two drawbacks to any extensive development of the industry. One of these is the slow growth of the plant, which takes about two years before the leaf can be cut for fibre. The other is a matter more easily remediable—the primitive nature of the process employed in extracting the fibre. The leaves are cut from the stem and split lengthwise into shreds about half an inch wide. The shreds, says a contemporary, are generally dried in the sun for about four days, are bound in sheaves, and kept soaking in a running brook for a week or ten days, and then beaten with a wooden mallet or against a stone. The best fibre thus produced is worth £12 per ton, and common sorts £5; but samples of fibre extracted by machine were valued at £25.

ROYAL HORTICULTURAL SOCIETY.

PROVINCIAL OPINION.

MUCH has been written regarding the manner in which the above Society manages its affairs. There are two sides to this question. Mr. Barnes (page 592) has taken exception to the manner in which the Committees are formed, but if we look into the matter we shall find that the members are selected from a wide range—from Exeter to Edinburgh. The management of the R.H.S. appears to take into consideration the distance some of the members reside from the metropolis, and retain their names as members of Committee with a view to making the bodies as widely represented as possible.

If these bodies were made up in greater proportion from the provinces, and less from the metropolis or its immediate neighbourhood, how would the work of the Committees be carried out? Personally I have only attended the ordinary meetings at the Drill Hall as a member of one of the Committees twice during 1895. This absence, however, I can safely say was beyond my control, and not in the slightest degree the consequence of a want of interest in the Society or its doings.

When I say that I reside nearly 100 miles from the metropolis some may say I could not be expected to attend often. Now if there were many members like myself on this same Committee I fear the Chairman would meet with little aid in carrying out the fortnightly duties. Instead of the management removing my name they have again invited me to serve, and I take it then they wish to give ample opportunity of a wide range being represented.—A COUNTRY MEMBER.

PRESUMABLY the Committees of the Royal Horticultural Society have been chosen for the present year, but if not the Council might do worse than consider if they are setting the best example, or even a good one, by including year after year the names of regular exhibitors at the meetings. It is not supposed they actually judge their own produce, but if sitting cheek by jowl with one's intimates meeting after meeting has no "influence" then is sentiment an empty name.

As a countryman of the north it reads strange to me, and no doubt to others, to find Mr. So-and-so having a "remarkable exhibit, for which a medal was awarded," while it is ten to one if we do not also see Mr. So-and-so's name among the "members present."

It is in the provinces considered prudent to as far as possible choose judges of garden produce from men who are not exhibitors, and men who have no interest whatever in any articles exhibited. It is abundantly evident that there are members of the R.H.S. Committees who are systematic exhibitors, and who seem to be always on the lookout for something, and certainly do not always go empty away. They may, and it may be conceded do, deserve what they get, but that is not the point. The point is that they are "interested" in the exhibits that the Committees of which they form a part, have to adjudicate on. It is that which seems so strange to many provincial horticulturists, and makes them think things that may have no existence.

Exhibiting plants or anything else that may be really new, novel, or of a generally instructive character, from time to time is one thing, but making up collections of ordinary produce, such as may be found in a thousand gardens, is quite another. There has been so much of this, and so many "honours" granted to committeemen, that the expression is often heard both in public and private that "members of the Committees of the R.H.S. ought not to be systematic exhibitors." If there is a strong feeling to the contrary let it be heard, with reasons.—OUTSIDER.

WINTER DECORATIONS IN THE OLDEN TIME.

No doubt our Saxon and Norman ancestors were somewhat uncultured, the refinement left by the Romans gradually dropped out, but probably they were not totally destitute of æsthetic tastes. We have indications that they admired what was beautiful in Nature and Art; and, indeed, some of their performances with pen or graving tool are scarcely equalled by later artists. Had not most of the historians been chiefly occupied in recounting legends and the fights of kings or chiefs, we might have known a good deal about the domestic life of our forefathers; this fact, however, we do gather from various sources, that not only churches, but houses, were decorated from time to time in winter with such leaves, flowers, or berries as were obtainable from the woods, lanes, or fields; gardens could not yield them much, since they were few, and contained scarcely any plant that was not native. Foreign evergreens, of course, were quite unknown.

One reason why folks in the olden time put evergreens about their houses has no influence now. They were supposed to offer an attraction to the woodland spirits, who wanted warmth and shelter at the season when other trees were leafless. This, of course, implies that people thought these beings, or at least the most of them, were favourably disposed to mankind. Evidently the evergreens they chiefly depended on were Holly and Ivy. The former was admitted to churches, not the latter, because it was associated with Bacchus and revelry.

Though we have no evidence to support the notion that Holly was thus named, because it was deemed "holy" or sacred, evidently the Anglo-Saxon, like other old names for the tree, refers to its prickliness, thus, the Welsh *celyn*, meaning "shelter" or "protection," alludes to the security afforded by its spiny foliage. More singular is the early name of *hulver* or *hulfreere* given to the Holly, which appears to have been derived from the French for the Olive, and the reason was, that at several festivals, Holly leaves were strewed on the ground as an odd substitute for those of the other tree, not pleasant, certainly, to tread on, if the feet were insufficiently shod. Then they could get, at least in south England, the branches of the Privet, or, as it was once called, Prim-print, now so largely used for hedges, but a true native, occurring in woods or copses, especially on a dry soil, and which is more or less evergreen, the berries adding an attraction during winter. These appear to be avoided by most birds, unless greatly pressed for food.

For the sake of the showy fruits our ancestors might also have cut branches of the Gueldre Rose; but these are apt to vanish before the winter sets in, though those often remain borne by its relative, the Wayfaring Tree, deepening in colour till almost black. From the lanes and roads, too, they would get plenty of the branches of another plant familiar to travellers, and, when growing in tangled masses, affording sufficient shade in summer to be called the Traveller's Joy. Even yet there are places where festoons of this wild Clematis extend over a narrow lane, linking the hedges on each side. But the plumey tops, as autumn approached, suggested the still familiar name of Old Man's Beard, and the cottagers adorned their homes with these, while they sometimes made the hard brown branches serve as pipes for smoking. On heaths and commons some would find the Furze or Gorse (*Ulex europæus*) exhibiting a few golden blooms, as it occasionally flowers at all seasons, and a branch with these on it might be put above the doorway, type of unchangeable love, symbolic also of strength. Quantities were cut in winter to shelter cattle or cover sheds, and the dry boughs made good fuel.

Excluded from churches because of its pagan associations, the Mistletoe, at and after Christmas, was commonly placed in houses; but it had to be removed on or before Candlemas Day, and popular belief attached chief value to pieces obtained from the Oak. The many virtues attributed to the Mistletoe need not be recounted here, some superstitious, some curative; but one thing we notice, that the berries, now esteemed as one source of birdlime, were not employed by our ancestors; the all-cure beverage was produced by boiling the stems. It was thought a good thing to have within doors a bough of the Rowan or Mountain Ash; but, unless obtained early in autumn, the berries would probably be cleared by the assiduous thrushes. One of its excellencies was that it kept away evil spirits.

If, in visiting the woods, as happens some seasons, boughs of some deciduous trees, the Oak and Beech, for instance, were found still retaining their leaves, these would very likely be brought home, and also boughs of Elder that might be noticed with early leaves, which, though cut off afterwards, tell of the presence of a mildness even in winter. Then the silvery Birch, laden with catkins, as we read, was made to supply decorations, often accompanied by sprigs of Box, which were not hung up till after

Candlemas. Yew, sombre looking, though evergreen, had its branches cut towards Easter, and hung up, presumably, because it symbolised immortal life.

Then the Laurel is mentioned amongst the occasional adornments of the house; this evidently was the Spurge Laurel (*Daphne laureola*), with its clustering leaves, and which displays small green and fragrant flowers about the end of March. Some state that if a branch was placed indoors it wrought as a charm to cure sick persons. Some humbler evergreens would be gathered, concerning which we are not told, such as the Butcher's Broom (*Ruscus aculeatus*) now scarcer than formerly, the Pyrolas, or Winter-greens, the Cudweeds, and Ferns which might be discovered leafy in sheltered nooks. Of course, berries of various kinds besides those named could be got during an average winter.—J. R. S. C.

FARMLEIGH, CASTLEKNOCK, Co. DUBLIN.

SNUGLY nestling on the northern side of the Phoenix Park is Farmleigh, one of the Irish residences of Lord Iveagh. Embowered in patriarchal trees it enjoys a seclusion that, perhaps, but few places can claim in the contiguity to a chief city. The lofty clock tower, 130 feet high, is, however, a conspicuous landmark, by which one is able to locate from afar off the whereabouts of Farmleigh. It is the day of rest when we (two of the craft) trespass on Mr. Morton for a peep at the many things under his care. Possibly it is the most convenient time for him to relax a little from his manifest labours of love, for it is a fact, and one that he does not deny, that he is but seldom absent from them. Hence, perhaps, is the reason that though for some years I have revolved round that clock tower within a score of miles, it is but lately we have come in contact, and not until to-day been within the gates, though the attractive force has frequently been felt.

The glass department is the prominent feature of Farmleigh, although through the highly kept grounds a liberal planting of Coniferæ embellish the winter scene. Some majestic Beeches with broad sweeping heads form an admirable background to a stretch of lawn on the north side of the mansion. On these Time's rude hand is beginning to score; indeed, being under the protecting ægis of his lordship, no other hand is permitted to curtail their ample proportions. A pleasing feature in this part of the grounds is a fountain, the comparatively extensive basin of which is simply margined by the turf. This, when playing, throws far up a single jet. A commodious boathouse at the head of the lake is stored with various craft, from water velocipedes to light outriggers. Some heavy transplanting of Limes is in course of operation, with the object of giving more scope to a flourishing avenue of *Thuja Lobbi*. Attached to the eastern end of the mansion (I hope that my cardinal points are not mixed through being fresh to the immediate locality) is the conservatory, holding some noble specimen Palms. The white marble floor of this house has been much admired, and is, to my mind, infinitely preferable to the multi-coloured encaustic tiles so often used for the purpose in houses of this description.

Palms are one of the principal features of plant culture at Farmleigh, and one cannot but marvel at their luxuriance, considering the restricted root room in the small pots they are confined to. Several houses are devoted to these, one in particular having a number of *Areca lutescens*, grand plants of which I have heard before. As in many instances the roots of these are overflowing the surface of the pots, the secret of health is found in feeding, Clay's fertiliser being favoured for the purpose. *Phoenix rupicola* is a handsome Palm, much appreciated here; Mr. Morton thinks highly of this, and is growing a hundred seedlings. *Kentias*, it is needless to say, abound, and are as duly appreciated as their merits deserve. As a winter-flowering plant *Begonia de Sienna* is much esteemed.

The chief end and aim of all plants grown here being for decoration, as cut bloom or otherwise, this end in view is never lost sight of, and to which the numerous houses are admirably suited. One house is filled with Carnations, another with *Odontoglossums*, chiefly *Alexandrea*; 1000 of these, as grown here, form no mean collection. One variety in particular is noticed which in the earlier days of their culture would have caused a sensation in its full, round, substantial petals, and may, even now, be regarded as a prize in the lottery of an imported collection. A long line of *Cypripedium insigne* have waved their slippers at us through the side windows of a stove house as we entered the gardens; these, on closer acquaintance, are fine plants in 8-inch pots; and, probably the length of leg (stem) displayed is to be attributed to the extra warmth they apparently enjoy; anyway, they are better adapted for showing to advantage when cut. In this house some plants of a particularly fine form of *Dendrobium Parishii* are hibernating, the pseudo-bulbs being longer and more robust than is usual with the type. Mr. Morton had these direct from Cachar—on the Indian side of Burmah. A photograph of this *Dendrobe*, taken when in bloom, reveals its high character.

Cypripedium Elliotianum, of which fig. 8 is a representation, shows the veining of the dorsal sepal standing out clear and distinct, and brings out a eulogium from the grower on its merits. In one of a series of low span-roofed houses a large group of highly coloured *Crotons* in the leading varieties is suggestive of some fine decorative effects in the near future. In this range Tea Roses are gently moving into growth.

These are planted in a rich outside border, brought in under the eaves of the house, to be then trained in the way they should go. Lady Iveagh having a predilection for sweet-scented things due attention is paid to

quality nothing to be desired. Something over 600 bunches are usually left on, half of these being Muscat of Alexandria in one division, the other consisting chiefly of Alicantes. Earlier vineries are now



FIG. 8.—CYPRIPEDIUM ELLIOTTIANUM.

them, and large quantities of fragrant-foliated "Geraniums" are planted out in boxes along the fronts of the Peach houses. For cutting purposes these, in a measure, take the place of Ferns.

A spacious hip-span vinery in two divisions leaves in its crop and

closed for starting. Pines are represented by a house of Smooth Cayennes, and some 3000 Strawberries await the stimulus of artificial heat. Many things there are, too, unavoidably passed over in a brief report of this compact and interesting place.—K., Dublin.



A GOOD LATE CRIMSON VARIETY WANTED.

HAVING been for many years a reader of the Journal I thought perhaps some of your correspondents would be able to inform me (as a grower of Chrysanthemums for market) of a good crimson one—"late" So far as I know we have none, and to my mind it would be invaluable, as the preponderance seems to be in favour of whites and yellows, while a good crimson is lacking.—P. C. CORNISH.

THE N.C.S. JUBILEE CELEBRATION.

IN common with numbers of others interested in the Chrysanthemum I am in receipt of a circular calling attention to the above, and a proposed schedule of classes for the same; and also an appeal for special subscriptions. I have no complaint whatever to make with regard to the proposed celebration, as it is an object well worthy of the Society; but it must not be forgotten that, after all, it is not the N.C.S. that was established fifty years ago, but the Stoke Newington Society, which expired many years ago, when the Borough of Hackney Society was instituted. The case seems to be very like what would have been seen if Germans were to claim the foundation of the present German empire from the origin of the kingdom of Prussia. We should say that was a stupid claim. I can but think that the assumption that the N.C.S. has been in existence fifty years comes into the same category. Or, who can tell, perhaps, should the Society endure so long, there may be a further jubilee celebration organised fifty years from the date of the actual organisation of the N.C.S.

It is stated in the circular issued, "The National Chrysanthemum Society was founded in 1846." That is so far from being the truth that it is marvellous it should appear in print. Turning to the rules, I find that the Society actually formed in 1846 was the Stoke Newington. Later it became the Borough of Hackney. Mr. Cannell, in a recently issued catalogue, tells his readers that when he proposed the purely local organisation then existing should be changed or reorganised into a national society, the then President vigorously opposed it. That fact shows that the original local societies never had the slightest claim to be regarded as national; therefore to claim that the existing National Society was organised in 1846 is singularly wide of the truth.

I do not know whether the present Committee is ashamed of its lowly beginnings. It is not at all an uncommon failing in these days, but the circular issued most wantonly ignores the existence of the former Stoke Newington and Borough of Hackney Societies. It is so very easy in consequence to draw one's own inferences. In spite of these criticisms, which are honest and mean a warm regard for the truth, I have every desire to give some pecuniary help towards the undoubtedly heavy expenses that will be incurred in carrying out the proposed celebration. Still, £1000 seems to be an enormous sum, of which the proposed feeding of the lions at the Hôtel Métropole will doubtless absorb £250. Is a mere dinner worth one tithe of that sum? Is not such an expenditure literally squandering money that could be much better utilised?

Then the sums set as prizes against the proposed competitive classes are large, and calculated to excite some cupidity. Only very few growers, however, can benefit by these classes and prizes, whilst the great body of smaller growers would have no chance. What are these great growers prepared to do in the matter of subscriptions to start with? We ought to see what they are prepared to do, and also the trade Chrysanthemum growers before the ordinary members of the Society and the general public are invited to render assistance. I am willing to do all in my power to promote the interests of the Chrysanthemum and to extend its popularity, but I cannot see why I should subscribe purely to put money into the pockets of interested growers solely.

It is worthy of notice that foreign members are invited to compete in one class, which, if largely entered in, might make the most attractive class in the show, but they have no other encouragement than cheap medals afford. John Bull in this instance shows how tightly he can hold on to the ready, but it is exceedingly selfish all the same. Surely the Committee will see later that the foreign member is entitled to the same pecuniary consideration as is the home member. Finally, though referring to a reconstruction of the show on the third day, nothing is said in the circular as to its nature. Does it mean that it reverts to the ordinary November exhibition then? That much should be stated.—A MEMBER.

CHRYSANTHEMUMS AS BORDER PLANTS.

IF the claims of a plant to our notice be measured by its services when other flowers are scarce, the Chrysanthemum will give place to very few, if any; for in the dull autumn months, sometimes up to Christmas, it cheers us with its varied hues. Each individual floret, too, has been, through the skill and patience of cultivators, made to conform to a high standard of excellence, and without diminishing the constitutional vigour of the plant, as in the case of some other plants that have undergone improvement at the florist's hands. The Chrysanthemum, on the contrary, seems to be quite as hardy and as accommodating as of old, when its varieties were few, and the flower very loose and ill-formed.

The cultivation of the Chrysanthemum is very simple, and as an outdoor plant it may be said to take care of itself. A little attention is necessary in preserving the plant in winter in stiff damp soils, for slugs are apt to destroy it; a covering of coal ashes is a good protection. Frost, unless very intense, rarely injures it, and it is not particular as to soil and position; on the contrary, it will luxuriate in very unpromising situations, and many a town garden is enlivened with the bloom of this plant in autumn year after year.

For outdoor display I would give the preference to the Pompon varieties for neatness of habit, diversity of colour, and better adaptability to bouquet making; but some of the intermediate class between these and the large-flowering are also good, as well as several of the large kinds. The colours will, of course, depend on the taste of the grower and his requirements; but as a general rule, where blooms out of doors are wanted as late as it is possible to have them, the colour which seems to be best capable of bidding defiance to the autumn rain is bright yellow. Chrysanthemums of this colour appear to withstand the bleaching effects of moisture better than those of any other, and even slight frosts that tinge the points of the petals do them less harm, for the yellow is converted into a sort of bronze colour, but the tips of a white or pink flower which has been exposed to frost show damage from that cause more conspicuously. A good yellow helps also to brighten up all around it; the dull foliage, dark ground, and even murky atmosphere at the time the plant flowers require some lively colour to give cheerfulness. A good white, I admit, would be as well, perhaps better; but the greater delicacy of that colour, and its liability to be injured in the way described, are great drawbacks; while all dark colours, as maroon, crimson, purple, and rose, fade or bleach into tints very different from what they ought to be, and, of course, much less beautiful. These remarks, it will be understood, relate to the kinds recommended for very late flowering. Earlier-flowering varieties may be of any colour. Both early and late varieties may be planted with advantage in places where a somewhat mild autumn may be expected, or where flowers for cutting are wanted.

The propagation of the Chrysanthemum is so simple that I need not advert to it here further than to remark that I would recommend not turning out too early those plants which have not been planted out—say till the end of April, as slugs are so fond of them; but plants growing out of doors may be taken out of the ground, divided, and replanted any time in April, throwing a little soot or lime over their crowns to keep marauders at bay. Ordinary soil will in most cases answer without manure, but the latter may be added when it is too light or poor. Thinning out some of the shoots of old stools, if any such have been left, may be necessary later; but do not shorten those intended to flower, otherwise a blank may occur. In general it is advisable to take up and replant at least once in two years, for if this is not done the flowers are poor or indifferent.—J. R. N.

EUPHORBIA JACQUINIÆFLORA.

ALTHOUGH the genus Euphorbia is a very large one there are few species that commend themselves to the attention of cultivators of stove plants. Euphorbia jacquiniæflora (or fulgens) I think occupies the most prominent position amongst those grown. It is very different in habit and general appearance from the rest. It blooms at the present season of the year, at which time its intense scarlet flowers, on wreath-like shoots, are unsurpassed by any plant in cultivation. It is a free grower and equally free in blooming. The flowers last well either on the plant or when cut and placed in water. It gives a succession of flowers from a second growth, which the plants make after the first flowering shoots have been cut. The beauty of the flowers is much increased by the dark green lanceolate leaves, which are very slightly distributed amongst them. It combines well with almost any other flowers, being especially suited for employing in large vases, where its flat sprays can with the greatest advantage be employed as a base for lighter-coloured flowers.

Some growers have experienced a difficulty in rooting cuttings of this plant. The soft sappy nature of the young shoots, if taken after they have extended considerably, causes them to be very subject to damp; in fact, if cuttings be made in the ordinary way very few will root. If, however, in the spring the young shoots that are made after the plants have bloomed are taken off with a heel when about 5 or 6 inches in length and inserted in small pots, well drained, filled with silver sand, placed in a temperature of 70°, and covered with propagating glasses, not one in twenty will fail to root. It is the heel of partially solidified wood that is essential to success. So managed, they will root in a few weeks, after which the glasses must be removed and plenty of light given.

When the plants are fairly established transfer them to 4-inch pots. They thrive well in good fibrous loam, to which should be added one-fifth part of sand. Drain the pots sufficiently, as the roots are very impatient of stagnant moisture, and too much water should not be given until the roots have taken well to the soil. The plant has naturally an erect habit, not disposed to branch much. To counteract this the shoots ought to be stopped or bent down when they get fairly into growth, so as to induce them to break back. The temperature may be allowed to rise in the day to 75° or 80° with sun heat, ventilating in the morning according to the state of the weather, and closing the house, whilst the sun is on the glass sufficiently to raise the heat for an hour or two to 80° or 85°, syringing at the same time. The plants will require a thin shade when the sun is powerful, but should have plenty of light, or the natural straggling habit will be increased.

By the end of June they ought to be placed in pots 7 inches in diameter, which will be large enough, employing soil similar to that in which they were last placed, with the addition of a small quantity of old decayed manure. Again tie down the shoots, bending the points considerably, which will cause several of the eyes to start. With this Euphorbia, as the plants become larger, bedding the shoots is preferable to pinching out the points, as it will induce more eyes to break. Continue the treatment as to heat, water, air, and a thin shade when necessary until the end of August, when dispense with shading and the use of the syringe, ventilating more freely, which will gradually suspend further growth and ripen the shoots. As the autumn advances reduce the temperature to 60° in the night, allowing an advance of 5° more in the day. If they should be required in flower by the end of the year, it will be necessary to keep some of the plants 5° warmer, standing them where the tops of the shoots will nearly touch the glass. This is essential to impart both colour and substance to the flowers.

As the flowers become apparent at the axils of the leaves the plants will be greatly benefited by an occasional supply of weak liquid manure, which will not only assist the first bloom they make, but enable them to make the second growth strong, which will also bloom. Such plants as are grown cooler to succeed the first must not have too much water at the roots, especially if the temperature is kept a little under 60° in the night, but it is not safe to have them in a much lower heat than this.

After the flowering is over allow the soil to become considerably drier, and head the plants down to within 6 inches of the pot, keeping them in a temperature of about 65° in the night, and giving no more water than will prevent the soil becoming quite dry until they have made several inches of growth, when, if more plants be required, the shoots may be taken off and rooted as in the preceding spring. The other plants should be turned out of their pots and two-thirds of the old soil removed, giving them 2-inch larger pots, which will be large enough to grow them in through the ensuing summer, assisting them with liquid manure when the soil is well filled with roots, treating them in other respects as advised for the preceding season.

This Euphorbia is also very suitable for growing on a back wall, in which position it looks well; but the flowers will not be so highly coloured as when they expand near to the glass. If planted in such a situation the border should be limited in size, for if the roots be in too great a body of soil, they are liable to decay when the plant is hard cut in, which it requires after blooming, and from then until some growth has been made the soil must be kept almost dry. Through treatment the opposite to this Euphorbia *jacquinæflora* when so situated very often dies after being cut back. This Euphorbia is less subject to insects than most stove plants, although thrips and spider will sometimes attack them; for these syringing and fumigating afford the best means of destruction. Should mealy bug appear, lay the plants on their sides and repeatedly syringe freely with tepid water, washing them with insecticide in the winter when at rest. White scale is so difficult to thoroughly eradicate when once it has attacked stove plants such as these, that are easily propagated and quickly grown, that it is much better to start afresh with clean cuttings, which should be inserted as previously recommended.—J. H.

RABBITS AND TREES.

HAVING received two inquiries on this subject, we think the following notes by a gentleman who has had much experience in planting and protecting game coverts may be more useful than brief replies:—

If it is practicable entirely to exclude rabbits and hares from the parts planted, I would advise that the wire netting used be not less than 3 feet wide, and not of larger mesh than 1½ inch. It should be fixed to upright stakes, and be well pegged down. Three inches at the bottom should be turned outwards, and laid flat on the ground, which should be levelled, and made up over the bottom of the wire along the whole length. The rabbits, hurting their claws without result in the buried horizontal portion of the wire, soon give up scratching at it; but some one should occasionally go round and make up the ground to the wire where required.

I wish, however, to speak more particularly of planting single trees or shrubs in bare parts of coverts or plantations. It is provoking to have these devoured year after year, and I think it better to plant fifty with efficient protection, than five hundred to be barked and mutilated, to take their chance of surviving in a deformed and stunted condition. It is known that trees when first planted are especially liable to be attacked by rabbits. We observe loppings of trees in coverts entirely cleared of bark, whilst branches and twigs of the same size growing within reach are untouched. In the same way recently planted trees are sure to be selected amongst others of the same kind and size. I have found the recommended preparations of night soil, gas tar, train oil, and quicklime, both bad for the tree and inefficient, unless renewed every month. I have used cradles made of common wire netting 2 feet wide, 2-inch mesh. This I cut or rather break across into lengths of about 2 feet. These I place round the young trees with the rough ends of the wire at the bottom and the top, and bring the level sides together, fastening them with soft wire previously cut into lengths of 3 or 4 inches. About 2 inches at the bottom and top of the cradle should be turned outwards, which gives additional protection. Each cradle should be pegged down with two pegs. The diameter of these cradles will be about 8 inches, the height about 18 inches, and the cost about 3d. This may seem a large cost to protect a tree worth only a penny, but much

vexation is saved, and they require no renewal. The labour of fixing is inconsiderable. I can fix from twenty to thirty in an hour with ease. Such trees as Larch and Spruce, if 3 feet high, which I find the best size for planting from my own nursery, into which I introduce them at 1 foot, will, of course, have their lower branches compressed by such cradles; but I do not find that this interferes with their growth. The same may be said of Hollies, and other evergreens. If larger cradles are desired, the netting may be obtained of any width, and the width must be three times the diameter required for the cradle. Rabbits are more likely to jump inside the larger cradles, which should, therefore, be higher. Much additional protection is obtained by putting pieces of Gorse or Thorns inside the cradle, and reaching over the top of it. I tried last year tying Gorse twigs with the bushy end resting on the ground about 2 feet up the tree. This appeared to answer until the snow, when the rabbits ate first the Gorse, and then the tree. Thorns cut up into short pieces are a much better protection. A few handfuls of these placed round the tree to a width of a foot and a height of 18 inches, seem as good as the wire cradles, and cost less.

I warn your readers not to be misled by lists of trees and shrubs which it is said rabbits will not eat. I have tried nearly all, and the only evergreens I find untouched are Yew, Box, and Rhododendron. My plantations are mostly narrow, bounded by grass or arable fields,

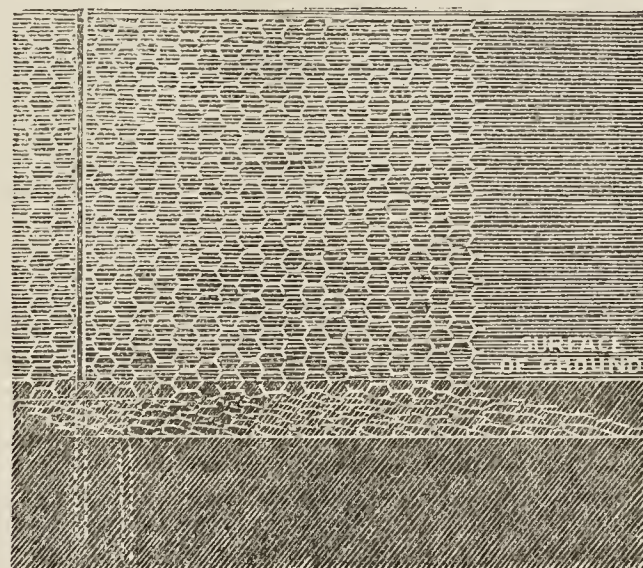


FIG. 9.—A RABBIT-PROOF FENCE.

and I keep no more rabbits than I am obliged to do in justice to the foxes, that these important animals may earn an honest livelihood, and not be driven to rob the farmyards.

Larch is the worst of all trees to get up amongst rabbits. They bark it even in the summer, and eat it quite down. Spruce, Silver Fir, and Scotch Fir are all eaten down in severe weather, especially when rabbits can reach to the top of them, though their bark seems less attractive. Do not, however, confuse the work of rabbits or hares with that of squirrels, which bite off the leaders of young Spruce, apparently to exercise their teeth, as they leave the tops on the ground. Squirrels must be killed if Spruce are to be reared. Oak, Spanish Chestnut, and nearly all forest trees are liable when first planted to be barked by rabbits, and should be protected as directed above. Of Holly, Privet, and common Laurel, rabbits and hares eat both bark and leaves. Broom hares bite quite down, even when of large size, and eat the young twigs. *Berberis Aquifolium* and Portugal Laurel are amongst the last shrubs touched, but in severe weather the rabbits attack young plants of both, citing the leaves off the former, though they do not seem to eat them, and barking the latter, though to no great extent. I have not spoken of choicer Conifers, but I find that *Abies Douglasi*, *Cupressus Lawsoniana*, *Wellingtonia*, and probably most of the others suffer more or less.

I may conclude by saying that where cover for game is the chief object nothing answers so well as the common Bramble or Blackberry, and the varieties of Briar or Dog Rose, including Sweetbriar. These take readily to any soil, require no nursing, grow very fast, and as shelter are far preferred by pheasants to the smooth-leaved *Berberis*, and to *Rhododendrons*.—C. W. D.

[The method advised of fixing wire netting to exclude rabbits from a plantation, and we know from experience it is good, is represented in the illustration, fig. 9.]

ORIGIN OF COOPER'S BLACK GRAPE.

THE Grape called Cooper's Black was not raised by the late Mr. George Cooper; but the original Vine was found planted in Armagh Palace Gardens when he took charge of them in 1854. Till that date no one seemed to know anything regarding its fruiting qualities. Mr. Cooper made all possible inquiries at the time, and the only information he could gain was that it was planted there about the year 1845.

The Grape was first brought into local notice in the spring of 1857, when dinner parties were given at the Palace, and Mr. Cooper sent to table some fine bunches, many present admiring them on account of the large berries and good bloom. Several asked for eyes which were given; some I know went to Scotland. But the first eyes were given to

Mr. Hill, at that time gardener at Hillsborough Castle. It was then named Cooper's Black. Mr. Cooper left Armagh in 1862 and went to Harristown in February, 1863, and he took eyes with him there. Mr. Cooper was three years altogether at Trentham, first from 1841 to 1843 and the second time in 1852, so if there had been any Vine like it there he would have known it, for he often told me Mr. Fleming used to grow a number of kinds.—B. COOPER.

[We are very much obliged to Miss Cooper for the information. The Grape is probably of continental origin.]

ROYAL HORTICULTURAL SOCIETY.

DRILL HALL—JANUARY 14TH.

THE first meeting of this Society for the year 1896 was held in the Drill Hall on the above date, and was probably one of the best that has been held at this time of the year. Not only were the exhibits numerous and of a high quality, but visitors collected in strong force, and this, despite the very untoward weather that prevailed throughout the day. It was noteworthy also as the occasion of the public début of Mr. S. T. Wright, Chiswick's new Superintendent. Apples formed the bulk of the exhibits before the Fruit and Primulas before the Floral Committees, whilst Orchids were very numerous and of great interest, so much so as to form as good an exhibition as is usually to be seen at a much later period of the year.

FRUIT COMMITTEE.—Present: P. Crowley, Esq. (in the chair); with Rev. W. Wilks and Messrs. G. Bunyard, J. H. Veitch, J. Cheal, A. F. Barron, T. J. Saltmarsh, G. Norman, G. Reynolds, F. Q. Lane, G. Wythes, G. Sage, W. Bates, J. A. Laing, W. Pope, A. Dean, W. Farr, and J. Wright.

In commencing the proceedings the Chairman gave a genial greeting to all, and expressed his pleasure in welcoming Mr. A. F. Barron to a seat at the table, a welcome that would have been equally extended to other new members, Messrs. Crisp, Inglefield and Ward, could they have been present on the occasion.

The display of Apples was extensive, most if not all the collections containing varieties not extensively cultivated, and some of them perhaps not likely to be. Messrs. G. Bunyard & Co. staged 100 varieties, five fruits of each, and not an inferior dish among them. Mr. Bunyard grows fruit well, keeps it well, and shows it well; and not a hand was held up against the silver-gilt medal that was proposed for the collection.

Similar unanimity was displayed in awarding silver Banksian medals to Mr. John Watkins, Hereford; Messrs. J. Laing & Sons, Forest Hill; and Messrs. Cheal & Sons, Crawley. Mr. Watkins' Apples included several fine specimens, the collection as a whole being remarkable for high colour. Messrs. Laing & Son had fifty dishes of Apples, several very fine, and some of them quite sufficiently polished; the foreman evidently likes to see them "cut a shine." Messrs. J. Cheal & Sons staged fifteen dishes of Apples and a few Pears of not generally known varieties, varying in size, quality, and colour. Two of the Pears were placed on the table—namely, Marie Guise, a medium sized, pyriform fruit, juicy, and sweet, a promising late variety for a wall; and Bergamotte Collete, also a medium-sized fruit, grown on an open fence, and also of very good quality.

From Mr. Watkins' collection a dessert Apple, *Lord Hindlip*, was examined. The fruit is of good medium size, broad at the base, narrowing sharply to the eye, yellowish green, with crimson stripes rising from the base, and the whole fruit more or less flecked with russet; stalk long, slender; eye small, closed; flesh tender, sweet, and pleasantly flavoured. An award of merit was unanimously granted.

Apple, *Royal Late Cooking*, was sent from Windsor by Mr. Owen Thomas; large conical fruits, bright yellowish green. Mr. Bunyard, who has an eye for Apples, thought he could detect a mixture of Tower of Glamis and Alfriston in the variety. It is a seedling raised by Mr. Powell in the Royal Gardens many years ago, and the fruits were gathered from a large standard tree. From young, cultivated trees in good soil the fruit might be expected to be still finer. No one voted against an award of merit for this Apple.

Mr. Wm. Prior, Bonks Hill, Sawbridgeworth, sent a dish of fruits of Apple Sir Walter; a large variety; round, symmetrical, somewhat russety to the feel, and suggesting a blending of the characteristics of the Blenheim and Alfriston. The fruits were rather shrivelled. A request was made that others be sent next year with a description of the tree, as the variety was thought to be promising.

Mr. W. S. Hurlstone, gardener to C. W. Lea, Esq., Parkfield Hallow, Worcester, sent a dish of *Beurré Perron Pear*; large fruits, bearing a general resemblance to *Passe Crasanne*, but distinct; very juicy and pleasantly flavoured (award of merit).

Mr. Peter Veitch, Exeter, sent six varieties of Apples, grown in his nursery in strong soil—namely, Newtown Pippin, good as English grown fruits; D'Arcy Spice and Cornish Gilliflower very good; Winter Warden and Cornish Aromatic of moderate quality (vote of thanks). Mr. W. Roupell sent a basket of Apples "Border Parsonage," a medium sized fruit with a sweet sub-acid taste, but was not thought worthy of any special award. It is an old Kentish Apple, superseded by many others in cultivation.

Mr. W. Farr, gardener to A. F. Pears, Esq., Isleworth, sent a dish of Tomatoes, "All the Year Round," small to medium, oval shaped crimson scarlet fruits in clusters, evidently useful for home consumption, as ripening so well at this season of the year.

FLORAL COMMITTEE.—Present: W. Marshall, Esq. (in the chair); and Rev. H. H. D'Ombrian, with Messrs. J. Fraser, Owen Thomas, J. Laing, C. T. Drury, H. B. May, H. Herbst, R. Dean, J. H. Fitt, G. Stevens, Jas. Hudson, J. T. McLeod, R. B. Lowe, J. D. Pawle, Chas. Jefferies, W. Selfe Leonard, W. Bain, C. E. Pearson, Charles E. Shea, Jas. Walker, E. Mawley, H. J. Jones, E. Beckett, Chas. Blick, H. Turner, G. Paul, and G. Gordon.

A decided feature in the show was the magnificent display of Primulas staged by Messrs. H. Cannell & Sons, Swanley, which occupied the whole of one side of the hall. Conspicuous in the group were such specialities as The Lady, Purple Lady, pyramidalis grandiflora alba, White Perfection, Cannell's Carmine, Purple Fern-leaf, Eynsford White, and Swanley Blue. The plants throughout were sturdy and healthy, characteristic of the high condition of culture to which they must have been subjected (silver-gilt Banksian medal).

Another good collection of Primulas was that staged by Mr. J. R. Box, Croydon, abundance of bloom and dwarf sturdy habit here also speaking of good culture. Among the specialities were White Perfection, Intensity, Princess May, Cannell's Pink, Wickham Surprise, Wickham Beauty, The Queen, Marquis of Lorne, King of the Blues and Wickham Gem (silver Flora medal). Messrs. J. Peed & Sons, Norwood, contributed a compact group of foliage plants, which included *Dracaena Jamesi*, *Alexandra*, Mrs. Sladin Wallis, *Goldicana*, *Alberti*, *Madame Heine* and *Barbetti*, with Palms and Begonias King Rufus and Arthur Malet (silver Banksian medal).

A few plants of the late *Chrysanthemum Jeanette Sheaham* were shown by Mr. H. J. Jones, Lewisham, this variety being a yellow sport from the white *Princess Blanche*. Messrs. Jas. Veitch & Sons, Chelsea, sent a number of blooms of their *Javanico-jasminiflorum* hybrid *Rhododendrons*, together with a well-flowered plant of *Rhododendron multi-color* *Ensign*. Messrs. J. Laing & Sons, Forest Hill, were represented by a bright collection of flower and foliage plants, which included Palms, Crotons, *Dracaenas*, *Begonias*, *Solanums*, *Primulas*, *Cypripedium insigne*, *Azalea mollis* and others arranged with taste (silver Banksian medal). From the Botanic Gardens, Glasnevin, Dublin, came flowers of *Erica mediterranea alba* and *mediterranea media* and *Hippeastrum aulicum grandiflorum*. Mr. G. M'Dougall, Ravenna Cottage, Stirling, sent a few Ferns—*Pteris tremula* *Ravennae*, *tremula superba* and *serrulata cristata* *M'Dougalliana*.

ORCHID COMMITTEE.—Present: H. J. Veitch, Esq. (in the chair); with Messrs. Jas. O'Brien, F. Hardy, W. H. White, J. T. Gabriel, Chas. Pilcher, C. H. Ballantine, H. M. Pollett, T. W. Bond, H. J. Chapman, T. Statter, E. Ashworth, W. Cobb, J. Jaques, E. Hill, J. Douglas, H. Williams, J. Sander, and T. B. Haywood.

Orchids were, as has previously been said, splendidly shown for the time of the year. Mr. J. Bradshaw, Southgate, staged a few cut blooms, including *Cattleya Trianae*, The Admiral, *Laelia aneeps Sanderiana*, and *Cypripedium nitens*. Cut blooms and one or two plants of *Cypripedium* came from Messrs. Heath & Son, Cheltenham; while Messrs. B. S. Williams & Son, Upper Holloway, arranged a bright exhibit. Prominent in this were numerous forms of *Cypripedium*, such as *Leeanum superbum*, *Sallieri aureum*, *Sedeni*, *Chamberlainianum*, *Argus*, and others; *Laelia costata*, *Calanthe bella*, and *Laelia anceps Fitchianum*. Palms and Ferns were utilised in this stand with good effect (small silver medal).

Messrs. Hugh Low & Co., Upper Clapton, staged a small group, comprising some handsome *Cypripedium*, *Odontoglossums*, and *Angraecums* (small silver medal). Mr. A. Wright, gardener to Sydney Courtauld, Esq., Bocking Place, showed a group of Orchids of great botanical interest. All the plants were *Masdevallias*, and some of the forms were extremely rare (bronze Banksian medal). Mr. H. Ballantine, gardener to Baron Schröder, The Dell, Egham, sent two plants of Orchids only, one of a heavily spotted variety of *Odontoglossum crispum*, and the other a very pale *Vanda* named *Charlesworthi*.

As is customary, quality was the conspicuous feature of the exhibit from Messrs. J. Veitch & Sons, Chelsea. It was a charmingly bright arrangement, by reason of the many flowers represented. *Cypripedium* were most numerous. The forms included were *venustum*, *Persicus*, *Sallieri nigro-maculata*, *Godseffianum*, *Aeson*, *nitens*, T. B. Haywood, *insigne Sanderianum*, *Germinyanum*, *Schröderae candidulum*, and several others. Then there were one or two plants of *Cattleya Trianae*, *Epidendrum Endresio-Wallisii*, *Zygopetalum maxillare Gautieri*, *Odontoglossum grande*, *Laelia albida*, and *Phaio-Calanthe Sedeni albiflora* (silver Flora medal).

Mr. H. J. Chapman, gardener to R. J. Measures, Esq., Cambridge Lodge, Camberwell, sent a few Orchids of great merit. *Cypripedium venustum* *Measuresianum*, *C. calypso superbiens*, *C. olenus* var. *rubrum*, *C. nitens*, *C. Fascinator*, *Vanda Amesiana*, and a few others were particularly conspicuous (bronze Banksian medal). Three plants of Orchids came from C. L. N. Ingram, Esq., Godalming, and comprised *Cattleya Percivaliana*, Ingram's variety, *Laelio-Cattleya Cicero*, and *Dendrobium recurvum*.

The Orchids from Messrs. F. Sander & Co., St. Albans, were good both in number and in quality. As was the case with all the collections, *Cypripedium* were most conspicuous. Worthy of mention were *C. Minnie Ames* (a hybrid between *C. Curtisii* and *C. concolor*), *C. nitens*, Sander's var., *C. Adraestes*, *C. Lathamianum superbum*, *C. L. albescentis*, and C. A. R. Smith; *Phaio-Calanthe Arnoldiae*, var. *superbum*, *Dendrobium Findleyanum*, *D. Johnsoniae*, *D. glumaceum*, *Lycaste lanipes*, *L. Skinneri*, and one or two *Odontoglossums* (silver Flora medal). Mr. Eastwood, gardener to H. H. Brown, Esq., New-

church, staged a hybrid *Cypripedium* called *Eastwoodiana*; and Mr. G. Cragg, gardener to W. C. Walker, Esq., Winchmore Hill, a spike of *Oncidium Cebolito*.

It is seldom we see exhibits from Mr. W. Bull, Chelsea, but they are always of good quality, this occasion being no exception. Only two *Cattleyas* were staged—namely, *C. nobilior* and *C. Trianae alba*, for the latter a first-class certificate being accorded. T. Statter, Esq., Stand Hall, Manchester, showed three *Cypripediums*, named respectively *Ceres*, *Anamœne*, and the Stand Hall variety of *Calypso*.

Mr. W. H. White, grower to Sir Trevor Lawrence, Bart., Burford Lodge, Dorking, exhibited Orchids in splendid form and fairly large numbers. Conspicuous were *Lycaste plana Measuresianum*, *Cypripedium Morganii burfordiense*, *C. Lecanum Albertianum*, *C. Lawrebel*, *Masdevallia polysticha purpurea*, *M. striatella*, *M. cucullata*, *M. ludibunda*, *Dendrobium endocharis*, *D. æmulum*, *Lælia Gouldiana*, *L. anceps Dawsoni*, *Odontoglossum madrense*, *O. coronarium miniatum*, and *Oncidium cucullatum* and *Whcatleyanum*.

A well-flowered plant of *Angræcum sesquipedale* was shown by Mr. L. Dupond, gardener to C. B. Powell, Esq., Old Hall, Southborough, the specimen carrying a number of well-developed blooms. Mr. H. Holbrook, gardener to E. Ashworth, Esq., Wilmslow, Cheshire, sent blooms from fifty *Cypripediums*, consisting of thirty-six hybrids and fourteen species. As may be imagined many charming flowers were included, such as *maculata*, *cardinale*, *venustum*, *insigne*, *Statterianum*, *Measuresianum*, *Chamberlainianum*, and others (silver Banksian medal). Fine spikes of bloom of *Calanthe Bella* were sent by Mr. Jas. Fitt, gardener to Earl Cowper, Panshanger, Hertford. Mr. Hill, gardener to the Hon. Walter Rothschild, Tring Park, sent a plant of *Lycaste tripobata*.

CERTIFICATES AND AWARDS OF MERIT.

Cattleya Percivaliana, Ingram's var. (C. L. N. Ingram).—A handsome variety of the well known type. The sepals and petals are rose, the lip having an edge of the same colour. This organ has a large velvety brown blotch, with orange-yellow markings, and a crimson throat (award of merit).

Cattleya Trianae alba (W. Bull).—With the single exception of a lemon-coloured blotch in the throat, this is a pure white form of much beauty (first class certificate).

Cypripedium Calypso, Stand Hall variety (J. Johnson).—A greatly improved form of the type in all respects (award of merit).

Cypripedium Euryades (J. Veitch & Sons).—From a cross between *C. villosum* Boxalli and *C. Lecanum*, this hybrid is of great beauty. The dorsal sepal has a green base and creamy white broad margins, profusely spotted with purplish brown. The petals are green veined and marked with brown, and the lip is rosy brown and shining as though varnished. The woodcut (fig. 7, page 47), sketched at the Drill Hall, depicts this *Cypripedium* (award of merit).

Cypripedium Miss Minnie Ames (F. Sander & Co.).—The parentage of this hybrid is *C. Curtisii* and *C. concolor*. The petals have a ground of dull white with rose shading and darker spots. The dorsal sepal is of the same shades, but with a green marking down the centre. The pouch is deep rose with a pale green base (award of merit).

Cypripedium Schröderæ candidulum (J. Veitch & Sons).—The prevailing colour of this hybrid is a salmon pink, more marked in the pouch than elsewhere. The petals are very hairy at the base, the dorsal sepal being tinged with green (award of merit).

Lælio-Cattleya Cicero (C. L. N. Ingram).—This is a bigeneric hybrid between *Cattleya intermedia* and *Lælia elegans* Turneri. The sepals and petals are pale rose suffused with purple, the lip being rich velvety crimson with a white throat (award of merit).

Phaio-Calanthe Sedeni albiflora (J. Veitch & Sons).—The sepals and petals of this bigeneric hybrid are white, with a pink tinge at the base. The beautifully formed lip is almost pure white. The parents were *Calanthe Veitchii* and *Phaius grandifolius* (first-class certificate).

Vanda Charlesworthi (H. Ballantine).—This *Vanda* is almost pure white, with faint blush tinges in the petals and sepals. The lip is very delicate rose (award of merit).

TOMATO DUKE OF YORK.

MESSRS JAMES CARTER & Co. send us an illustration of this Tomato, which we have pleasure in publishing, inasmuch as we believe the variety was the only one to which a first-class certificate was awarded by the Fruit Committee of the Royal Horticultural Society in 1895. Had not the plants and fruits, more than once examined, displayed more than ordinary merit, a majority of the members would not have voted for the award in the absence of a trial of the variety at Chiswick. The specimens which received this unusual mark of approval were exhibited at Westminster on July 23rd last year by Mr. E. Ryder of Orpington. The fruits were remarkable for their uniformity in size, as well as for being of practically faultless symmetry and colour. They were also firm and



FIG. 10.—TOMATO DUKE OF YORK.

of excellent quality. The plants produce large clusters, not of large fruits, but, as was observed, fruits "just of the right size for use and market." The Duke of York is a Tomato well worth trying amongst others of undoubted excellence that are now in commerce.

FLOWER SHOWS.

THE temperate tone of the article by "Argus" on page 28, in which he pertinently questions a few remarks of mine, leads me to infer that we are viewing the matter from different angles only, and not in diametrical opposition to each other. It is just possible that we are not viewing the same matter at all, which, I take it, is neither my experience of the subject nor that of "Argus"; but is the matter, pure and simple, as set forth in the original article by "A Scottish Gardener." On this my criticism was based. This, as I read it, was not a question of "one black sheep in the flock," nor of the "apathy, inefficiency," or what not of "the crew," but of a flock of black sheep; of a hulk manned rather by criminality than by inefficiency or apathy.

If—if this state of things, supposing it to exist, is the rule and not

the exception, then, I repeat, we are past redemption. Call on your imagination, "Argus," and picture, on lines parallel to the original conception (the original article) a vessel yawling about ready to founder; why even the rats would desert her, and small blame to them. There is always danger of a narrow construction being placed on a broad subject when derived from a single opinion. The discussion has now entered on broader and more liberal lines.

We may now reason from what we know, and not from "facts which darna be disputed;" for, as in this case, facts which will neither take shape nor form (though it is not too late for them to do so, if "A Scottish Gardener" so wills it) may be but ghosts, which it is necessary to lay in the interests of public peace; but to "dispute" with them is impossible, for there is nothing tangible to dispute with. Isolated cases of misdemeanour prove nothing where so large an area is called into question.—VESPA.

MAY I ask "Scottish Gardener" (page 574), how many cottagers would exhibit at flower shows if no money prizes were given? In many country shows the cottagers' division has more entries than all the other divisions put together. At a show in the Swansea Valley, in which I take an interest, in 1895 the cottagers' entries were over 500 in number, out of about 1300, the other divisions being the open, amateurs, farmers and specials.

Many of the cottagers exhibit first class produce, buying the best seeds of specialities in vegetables from various seedsmen. One man I know paid between £3 and £4 for seeds in one year. This he could not possibly do, unless he expected to have part of it returned in prize money. Certificates would not pay his seedsmen's bills.—WELSH GARDENER.

EXHAUSTED VINES.

I SHOULD be much obliged if some reader of the Journal would give me advice respecting some old Vines—Black Hamburgs—many of the laterals of which are very little larger than a good Wheat straw. The bunches and berries are very red and shrivelled. I should say they have been planted at least twenty years or more. Some attempt has been made at renovation by those previously in charge, but with very poor results. The roots are in an outside border. I am told they have been cropped very heavily, bunches on every lateral as far as possible, sometimes two. Is it any use one trying to bring them round? This year they have been tried with a light crop, with the results mentioned previously.—H.

[Our correspondent is a young head gardener, and finds himself in the difficulty of not knowing what to do for the best under the circumstances described. He thinks there must be older members of the craft who have experienced difficulties of the same nature, and who will be willing to give him advice, for which he will be grateful. We shall readily publish information that may be of service to him and to others on the subject of his note.]

ROATH PARK, CARDIFF.

LONDONERS, as a rule, pride themselves on their parks and open spaces, and considering the beauty of the majority of them and the undoubted utility of all, one may say they are justified in so doing. Few persons living in our great metropolis care to think of London without its lungs, and probably no one censures the London County Council for the money it has laid out in the purchase of new and the improvement of old sites and in their maintenance. But London is not by any means alone in possessing handsome parks and gardens; on the contrary, most of the large cities and towns of England have at least one, and generally more places where the inhabitants can enjoy the sight of green grass, beautiful flowers, stately trees, picturesque expanses of water, and the invigorating spectacles of our great national games for nothing, or rather comparatively nothing, as though the cost must be provided for through the rates the charge is usually so infinitesimally small as to be totally unworthy of the notice of broad-minded Englishmen, who with ease grasp the benefits derived from their possession. From a health-giving point of view the value of parks and gardens to the population of large towns is not readily perceptible, but everyone knows it must be simply enormous.

But it is not, however, proposed here to regard these things from what may be termed a hygienic standpoint, nor to pass in review order the parks of London, but to go scores of miles away from the modern Babylon into Wales, and look with a horticultural eye on the doings of the powers that be in the important seaport town of Cardiff. Speaking generally, one cannot with justice accuse "gallant little Wales" of being behind in the matter of improvements, and probably, of all its towns, Cardiff would be placed well in the van. Here is a town that, according to the last census returns, had a population of nearly 129 000, and it has now parks, gardens and commons covering a space of upwards of 180 acres. As is common in all towns where there is much shipping, many of the inhabitants belong to the poorest class, and live in houses having a small yard—no stretch of the imagination can make it a garden—at the back, while the frontage abuts immediately on the pavement. Not that the town is entirely composed of such dwellings as these, for there are wide streets flanked by splendid shops and charming private residences, both small and large, such as may be found in the environs of all towns of considerable size. It is not to these latter that the parks

are such a boon; but to the former, who, deprived by necessity of gardens of their own, must have recourse to those provided by the intelligence of a thriving corporation.

The desirability of doing all that could be done in this direction in Cardiff appears to have been practically realised only a very few years ago, when advertisements were inserted in the customary mediums for a superintendent to take charge of all the open spaces, and also of the hundreds of trees planted at the roadsides. The choice fell on one who may be designated a Cardiff man, and who bears a name at once honoured and respected throughout the gardening world—Pettigrew. Who does not know Mr. Pettigrew of Cardiff Castle, at least by repute? Fewer persons know his eldest son, Mr. W. W. Pettigrew, though he has seen service in several gardens, and is familiar to many as an old Kewite. To this man, young in years but old in knowledge, was entrusted the management of the existing gardens and the laying out of several new ones, and the unanimous verdict is that the choice was an excellent one, for under his guidance the marked and constant improvement has been the source of much appreciation by the authorities, and of pleasure to the public in general. Evidences of his skill and concentration are seen on every hand, and the visitor to Cardiff cannot but express surprise and admiration when he sees the work that has been and is being done.

In a previous paragraph it was mentioned that there were about 180 acres at present in hand, and before looking at some of the principal in detail a general survey may advantageously be taken to ascertain how the space is allotted. First of all we have Roath Park, the name at the head of these notes, covering a total of 120 acres, this being the chief and largest park in the town. Then there are the Ely and Canton Commons, occupying 25 and 22 acres respectively; and in addition to these fourteen smaller places, varying in extent from half to 3 acres each. Thus is the grand total approximately reached by allowing for the fourteen an average extent of 1 acre. It will be seen that the whole does not attain to the size of more than one of the London parks, but this must not be taken as a sign of diminished importance or utility, for the enormous population of the capital should be taken as a set off against the comparatively small one of this Welsh seaport. If exact figures were obtained, it would in all likelihood be found that the latter town was the better off in proportion. Whether or no, matters little here, so we will say no more of it, and, apologising for the digression, turn to the proper aspect of the subject.

Let us first of all glance over Roath Park, or rather parks, for it is really a series of five distinct spaces. As has been said the whole covers about 120 acres, which are divided as follows:—Recreation ground, 23 acres; pleasure gardens, 11 acres; botanical gardens, 15 acres; lake section, 41 acres; wild garden, 10 acres; the remaining space being taken up by the roads which surround the parks. By laying out in this manner the Cardiffians have probably created a precedent, and one, moreover, that has much to commend it. The visitor can commence with the first named, and by crossing the dividing roads walk right through the whole and out at the extremity of the wild garden, seeing fresh features of beauty and interest throughout the whole of the journey, which is no inconsiderable one, as the land utilised is long and very narrow, and not such as one would suppose naturally adapted for effective laying out. The utmost possible advantage has been taken of any natural formation that would assist in giving a pleasing picture, and the results attained to are such as any town, large or small, might well be proud to possess. Truly, gardening is an art that doth mend Nature, and no better instance of this could be desired than that of Roath Park, Cardiff.

Those who are of a naturally athletic turn of mind will probably turn first to the recreation ground, and in doing so will find much to amuse and possibly instruct, but from a horticultural aspect little can be said. Not that one could consider its inclusion within the Park precincts as wrong or inappropriate any more than the lake section, which is the largest of the five divisions. Here, again, the man of muscle can find exercise in boating on the broad waters, and without running any considerable amount of danger in the pastime, while others too indolent to exert themselves to such an extent can find amusement in feeding the water fowl, with which the place is so well stocked. The gardener may, however, find these things fatiguing, and long for something that appeals to his natural bent. He, too, will find plenty of food for thought, and see many things worthy of a mental note for use in his own garden at a future time.

An excellent name is that of the "Pleasure Garden," for here, indeed, all classes can spend a most enjoyable time. There are comfortable seats in considerable numbers, and flowers by the thousand in their season, when one can sit and breathe into the lungs fresh air laden with the perfume of many flowers, the eyes being at the same time refreshed by the greenness of the grass and the trees that flourish here and there. Plants of a perennial nature find a congenial home in the broad sweeping borders, while beds are devoted to various modes of bedding. The latter forms a particularly fine feature on a somewhat steep bank that rises at one end of the garden. The slope is grass covered, and at intervals on it are cut beds, which were at the period of this visit very gay with summer flowers. Though the visitor could not actually walk amongst those particular beds, he could enjoy them both from the top and the bottom of the bank, and the planting had been such that each position gave a fresh interest and an additional charm. The cleanliness that prevailed over everything was highly creditable, and such as is rarely seen in parks and gardens anywhere.

Ere many years have passed it is confidently expected that the botanical garden will be an interesting and a valuable one, and already

an excellent start has been made, the plants having been procured from various quarters. As the Superintendent is a botanist this feature will doubtless be thoroughly worked. The garden is cut up into small beds, some of which contained in the summer their permanent occupants, while others for which the stock had not then been received were filled with annuals which served to cover any signs of bareness that would otherwise have been apparent. Although the collection is still in its infancy, and of course very incomplete, much interest is already evinced by visitors, and it is thought that this will increase with the advancement of the gardens. Passing on into the wild garden, a very different state of affairs is noticeable, for here the endeavour has been to obtain as natural an effect as possible. The scheme has been a striking success, and the views formed in this limited area are varied, beautiful, and quite surprising. The glimpses caught between the trees of a small stream running through the garden are exceedingly picturesque, and must cause surprise to everyone who sees them for the first time.

From the chief place we may with advantage adjourn to one or two of the smaller ones, of which Canton and Ely Commons are the most noteworthy. When the laying out is entirely finished these will be well deserving of being called parks instead of commons, for the best possible attention is being given to every detail so as to insure success. Foliage and flowering shrubs and trees will be greatly in evidence, while small expanses of water will be present to lend variety and added charms. Then there are the fourteen smaller spaces, of which individual mention would be neither possible nor desirable, especially as they are all more or less of the same nature. Of course, there are various shapes included amongst the different sizes; thus all, with the aid of almost identical plants, are made to present fresh features. One to which a visit was paid was surrounded by broad borders filled with biennial and perennial flowering and foliage plants, the centre being grass with an occasional bed. The surface was undulating, the grass closely mown and very thick, and the effect was charming in the extreme. A bandstand also adorned this enclosure, underneath which had been formed a shed as a place for necessary tools, thus putting the stand to two good uses. Each space has a caretaker in charge, over whose resting-box appear the words, "Villa Cardiff," with the coat of arms.

In the preceding notes it has been the writer's endeavour to convey some idea of the parks and gardens of Cardiff to readers of the *Journal of Horticulture*, though everyone would obviously obtain a better conception by paying a personal visit. In such a notice as this it can scarcely be expected that justice could be done either to the municipal authorities or to Mr. Pettigrew, but doubtless sufficient has been said to justify the assumption expressed towards the commencement, that Cardiff as regards parks and open spaces must be accorded a prominent place in the van. The future holds great possibilities, and their realisation will be watched by no one more closely than by—
NOMAD.



HARDY FRUIT GARDEN.

Planting Fruit Trees and Bushes.—So long as the weather remains open, and the ground is comparatively dry, the arrears of planting may be completed. Whether planting is being proceeded with or not all young trees or bushes that are being received for this purpose should immediately be laid in in shallow trenches, the injured parts of roots cut away, and the remainder carefully covered with soil of a light character. No tree ought to be taken from these temporary quarters until the position for its permanent occupation is actually ready for its reception. There is then no injury to the delicate young fibres which may have formed since laying in, nor do the rootlets become dried from harsh, cold winds. Much depends on the care of the roots and the manner of planting. The cuts on the roots should be made from below upwards, making each clean and smooth. In planting spread out the roots horizontally to their fullest extent, the holes being formed wide enough in the first instance to admit them. Some of the larger trees will have roots in layers or courses. These ought to be spread out separately and covered with soil from the stem outwards before the next course of roots is dealt with in the same way. Moderately dry soil is the best to use at this season, and it may be composed of loam, old potting soil, and wood ashes. Stake and tie the trees as planted to prevent the wind disturbing them.

Mulching.—All newly planted fruit trees require a covering of half-decayed manure laid on the ground over the roots. This not only prevents the rapid cooling of the soil, but is a safeguard against frost entering too deeply. A manurial mulching is of great importance in checking excessive evaporation consequent on the drying east winds of the spring, yet admitting the warming influence of spring sunshine, which is required to promote the activity of the roots so as to encourage free growth of wood. Old-established trees are benefited by a liberal mulching of decayed manure, especially if they have in the previous year produced a heavy crop of fruit, or are weakly in growth owing to partial exhaustion of food material in the soil. A

nitrogenous and potassic manure, such as a mixture of bonemeal and kainit, applied at the rate of 4 ozs. to the square yard, will also be beneficial, spreading the mixture only over the roots which ramify in the soil as far as the branches extend. Soot is an excellent manure for dressing bush trees. It contains ammonia and is tolerably quick in action. Besides being useful as manure it is detrimental to insect life, whether established on the trees or hibernating in the soil. Make the soil black with the soot, or dust over the trees when the latter are wet. That which adheres to the branches and shoots acts as a cleanser, and affords some protection to the buds from the depredations of sparrows, bullfinches, and starlings.

Pruning.—Newly planted fruit trees should not be pruned until the sap begins to move. Established trees, pyramids, bushes, cordons, espaliers and wall trees ought to have the pruning completed, dealing with Apples, Pears, Plums and Cherries first, finishing with Apricots, Peaches, and Nectarines. Gooseberries, if left over for late pruning, ought to be attended to before they burst into growth, but early pruning is desirable, protecting the buds from birds by dustings of lime or soot, or strings of black cotton. Prune the dead wood from Raspberry stools, also the weakest canes, shortening the strong ones to ripe parts. Fresh plantations of Raspberries must have the whole of the growths shortened closely to the ground so that the stools may throw up strong growths during the season, and thus become firmly established before allowing them to bear the succeeding season. It is well to treat newly planted Blackberries in the same way, sacrificing fruit the first season.

Red and White Currants as wall trees may be furnished with main branches 9 inches apart, trained vertically, the side shoots being pruned to within an inch each season, the leading shoots to 8 inches. Treat Gooseberries on walls the same. Black Currants are not usually grown on walls, they furnishing the best crops as bushes in the open, retaining a fair amount of strong young growths, and thinning out the old fruiting shoots.

Cutting Scions for Grafting.—Select healthy lengths of the current year's wood from the special varieties of Apples and Pears it is desirable to establish on healthy vigorous stocks. The scions must be correctly labelled and then laid in on the north side of a wall in moist soil or sand, the object being to keep them quite dormant until the grafting season arrives.

Heading Down Stocks for Grafting.—The present is a suitable time to cut down the large branches of trees intended for grafting. In removing the branches, cut them for the present a few inches above the place intended for inserting the scions, and be careful not to run the risk of tearing the bark by omitting to make a back cut with the saw on the underside before the incision on the upper side has progressed too far.

Strawberry Beds.—Plantations of Strawberries that have not yet been cleared of runners, dead foliage, and weeds ought at once to be attended to, lightly forking the soil down the centre of the rows, but not disturbing the fibrous roots. Afterwards lay down a good coating of decayed manure, which will prove of great benefit. When the surface has dried somewhat between the rows of young plants a light hoeing may be given, continuing it at intervals, which will be of more frequent recurrence as the season advances.

FRUIT FORCING.

Vines.—*Early Forced in Pots.*—When the Vines have developed growth and foliage, root action, provided the medium is in a suitable condition, proceeds rapidly, as the evaporation of water from the leaves is considerable during daylight and the atmosphere drier in consequence of the sun's influence or from ventilation; therefore the roots must imbibe the requisite amount of soil water, and with it the hydrogenic, oxygenic, and nitrogenic elements, as well as those of a mineral nature, for the purposes of elaboration, assimilation, and building up of the structures of the Vines and Grapes. A sodden soil does not favour the emission of roots, or the chemical changes taking place that are essential to a proper supply of wholesome food. Many failures with Vines in pots arise from this cause—too much water or too wet soil in the early stages of forcing—and the foliage frequently flags under bright sun when the soil is saturated. This simply because the Vine has not sufficient root-imbibing power to take up the amount of water requisite to maintain the supply equal to that of evaporation by the leaves. A similar state of affairs occurs when the soil is not sufficiently moist and the roots are in a condition to supply water (and that means food) as fast or faster than it is evaporated by the foliage. This means a great deal in the cultivation of Grapes, for the more water evaporated the greater the amount of solid matter in the plant. Up to leaf formation Vines in pots should be kept on the dry rather than the excess side of moisture at the roots; then they will form fresh rootlets, and be in a position to absorb and transmit abundant supplies of nourishment. This is absolutely essential after the first-formed leaves are full sized, but at no time may the supplies be such as to produce a soddened condition, for it is only when the soil is getting somewhat dry that water is necessary and can possibly refresh. The thing is to give it before there is distress by lack of it, and then abundantly, so as to thoroughly moisten the soil through to the drainage.

During flowering the Vines should have a night temperature of 70° and 5° more artificially by day, with 10° to 15° rise from sun heat. Attend to thinning as soon as the berries are swelling; indeed, it should be done as soon as the fruit is set, for the varieties usually forced are free-setting, and the best berries can be detected from the inferior directly after flowering is over. Encourage growth above the fruit, yet

only as much as can have exposure to light. Surface-dress the soil with short manure, and when roots are emitted freely from the collar some turves may be placed around the rims of the pots, extending about a couple of inches inside and over them, so as to be on the fermenting material. The roots will take to the turves, and through them to the bed of leaves. Let the temperature range from 65° to 70° at night, 70° to 75° by day, and 80° to 85° or 90° from sun heat. Ventilate from 75°, allow the proper advance from sun influence, and close early so as to raise and maintain a temperature of 85° to 90° with the aid of sun during the early part of the afternoon. This, proper supplies of phosphoric acid, potash and nitrogen in the shape of superphosphate, sulphate or muriate of potash and nitrates, or their equivalent ammoniacal substance as sulphate of ammonia, with a genial atmosphere, is the way to have fine berries. Avoid syringing the foliage after the Grapes commence swelling, as there is always danger of the water leaving a deposit, which spoils the appearance of otherwise well grown and finished fruit. There must not, however, be any deficiency of atmospheric moisture, but damp the floors and walls in the morning, early in the afternoon, and if necessary in the evening. Evaporation troughs keep charged with weak liquid manure.

Early Houses.—If any Vines were started in November or early December they will be making progress and need the greatest care in ventilating, not admitting cold air, draughts crippling the foliage and rusting the berries, and both on that account are unable to perform their functions, the former not assimilating food, and the latter not swelling properly. Disbud and tie the shoots before they touch the glass. In stopping, which should be done when the leaf at the joint is about the size of a halfpenny, allowing two or more joints of growth beyond the show of fruit, or where there is room, do not confine the stopping to any given number of joints beyond the bunch, but extend the growth so that an even and ample supply of foliage will be insured. Crowding, however, is very disastrous, therefore allow no more foliage to be made than can have full exposure to light and air. Remove all superfluous bunches early, incipient clusters being inimical to a good set and prompt swelling of the berries. When the flowers are open maintain the temperature night and day at 70° to 75°, with a rather dry atmosphere, not going to the extreme of depriving the air of the needful moisture essential to the health of the foliage. If there be any Muscat of Alexandria keep the points of the bunches well up to the light, and fertilise the flowers when fit with pollen from other free-setting varieties.

Houses Started at the New Year.—Many growers still cling to the old-fashioned Black Hamburg and Buckland Sweetwater or Foster's Seedling as the best for early marketing purposes; but some prefer the higher quality Grapes, as Madresfield Court and Muscat of Alexandria, and, getting good samples of these early in June, make a larger margin of profit and a surer sale, as there is less danger of a glut, and when it comes to choice the higher quality fruit takes precedence. The borders for these high-class varieties require to be wholly inside, and to be composed of thoroughly sound materials over perfect drainage, then they are as easily managed as other Grapes, if care is given to the setting of the fruit. Duke of Buccleuch is superior when put in the market in good condition, but it is a bad traveller compared with the Muscats, as its skin discolours with the slightest jolt of one berry against another, and that is pretty often in sending by rail. With a proper moisture at the roots, and a genial atmosphere, the Vines previously forced soon break, especially if a little manure water is used for sprinkling the floors. Sprinkle the rods two or three times a day with clear (liquid manure encourages aerial roots) water, maintaining a temperature of 50° to 55° at night, 60° to 65° by day, ventilating freely above 65°. For Muscats, allow 5° more all round. The rods and canes of young Vines should be slung in a horizontal position to secure the buds starting evenly.

Late Houses.—Thick-skinned Grapes require to be kept cool and uniform in temperature. This can hardly be assured to them on the Vines after the sun gains power without covering the lights. However, we have not found the Grapes keep so well on the Vines as in a suitable Grape room, which means any dry compartment from which frost is excluded and not liable to sudden fluctuations. The Grapes should be cut with as much wood as can be spared, the stems placed in bottles filled with soft water, each containing a few pieces of charcoal. The bottles must be fixed in an inclining position, so as to admit of the bunches hanging clear of the sides, and they may be as far apart as not to allow the bunches to touch each other. Keep the temperature of the room at 40° to 45°, examining the bunches occasionally for decayed berries, which must be carefully removed. The Vines should then be pruned, dressing the cuts carefully, and that part only, with styptic or patent knotting. Thoroughly cleanse the house, removing the loose bark from the Vines, but not peeling, scraping, and scrubbing them so as to injure the living bark. Wash them with a mixture of 3 or 4 ozs. of soft soap to a gallon of water. If there has been any red spider or other insect pests follow with an approved insecticide, or if mildew has been troublesome use a 10 per cent. solution (1 lb. to a gallon of water) on young Vines, and a 15 per cent. (1½ lb. to a gallon of water) on old rods, of sulphate of iron, applying with a brush. Air should be admitted freely in favourable weather, seeking to give the Vines as long and complete a rest as possible. Where the borders are not satisfactory lift the roots and relay them in fresh compost, and where the Vines have inside and outside borders the renovation may be accomplished without loss of crop by renewing the former one year, and the latter the next.

Melons.—As the seedlings grow add a little warm soil, keeping them near the glass, and look out for slugs. Soil should be placed under

cover, so as to become dried preparatory to forming into ridges or hillocks in the Melon house. Good turfy loam, rather stronger than light, is suitable for Melons, and if it has been laid up in ridges so as to reduce the herbage it will be in a fit condition for the purpose. If deficient of grit add a fifth of road scrapings, and if not calcareous a similar proportion of old mortar rubbish. If there is need of manure, horse droppings are good and not liable to encourage eelworm. The mixture, in that case, would consist of four parts loam, one part each of horse droppings, road scrapings and lime rubbish. For frame culture seed should be sown early in next month. The materials should be prepared and the bed made up forthwith in the manner described below for Cucumbers.

Raising Cucumber Plants in Frames.—Most people make a point of having fruit by Easter. The weather has much to do with producing Cucumbers early, and the means at command make often just all the difference between one gardener having them by a given time and another not. The period of starting has something to do with matters of this kind, but there is little gained in time and certainly much expended in labour and material by commencing early. Indeed, we have found that early February is a good time to start seeds for raising plants to fruit from April onwards. The material for making up the bed being collected, two parts leaves and one part stable litter should be thrown together in a heap, moistening if necessary, and when warm turning outside to inside, again sprinkling with water if any parts are too dry, will part with rank steam and induce a sweet regular heat. A site for a bed should be chosen with full south exposure and having shelter to the north as that of a hedge or wall. If the ground be rather higher than the surrounding level all the better. The bed should be about 5 feet high at back and 4 feet 6 inches in front, which will allow for setting, as it will do about one-third, and it should be 18 inches larger all round than the box to be placed on it. In forming the bed beat the sweetened dung and leaves well down with the fork as the work proceeds, and a few peasticks placed across and along the bed at intervals not only prevents overheating, but admits heat from linings being conveyed to the interior of the bed. For early work frames with double sides are preferable, half-inch boards 9 inches in depth at the back and 6 inches in front less than the box being secured to the inside, nailing strips of wood an inch wide and thick vertically to the box, then the boards, which form an inch cavity all around the inside, and thus heat is got in the atmosphere from the linings. In about a week from making up the bed the heat will be up. Level the bed, replace the box, apply sufficient sweetened material to raise the inside within 2 or 3 inches of the top of the inner frame or cavity, placing sawdust, dry leaf soil or spent tan for plunging the pots in. To raise the plants half fill 3-inch pots with rich light loam, placing one seed in the centre of each pot, covering with fine moist soil, so that no water is required for the germination of the seed. Space is thus left in the pots for top-dressing, which is preferable to potting the seedlings. Cover the pots with a square of glass, which hastens the germination, but remove it as soon as the plants appear. The plants from a sowing made early in February will be fit to plant out early in March.

Cucumbers in Houses.—To maintain steady progress in the plants and secure clear straight fruit the temperature should be maintained at 65° at night, 5° more in mild and 5° less in very severe weather, 70° to 75° by day from fire heat, and 80° to 85° or 90° from sun. When the external air is mild a little ventilation may be given at 80°, closing before the temperature is reduced below that degree, but it is better to close so as to secure 90° to 95° in the early afternoon, and at all times exclude external cold air, which injures the foliage and causes the fruit to become stunted and to curl at the end. Plants in bearing will require to be examined about twice a week, removing all weakly and exhausted growths, reserving as much of the young bearing wood as is necessary for filling the allotted space, stopping the shoots at one or two joints beyond the fruit. Young plants coming into bearing must not be cropped too heavily, giving them all the assistance possible, removing the male flowers, also surplus female blossoms as they appear. Let the root and atmospheric moisture be governed by the condition of the soil and external circumstances. Avoid overwatering, and supplying liquid manure when vigour is needed. Except on very fine days syringing should not be practised over the foliage, a light sprinkling on fine afternoons being beneficial; but damp the floors, &c., moderately at about 8 A.M. and 2 P.M., also in the evening if the surfaces become dry. Encourage the roots to spread on the surface of the bed by adding a little fresh lumpy loam from time to time, and feed them with a dusting occasionally of some approved fertiliser, say a small handful per square yard. If there be any lack of colour in the foliage or fruit use that amount of light dry soot, the nitrogen and mineral matters of this substance encouraging the development of chlorophyll. If aphides appear fumigate on two consecutive evenings. Dust with flowers of sulphur on the appearance of mildew, and arrest canker by rubbing quicklime into the affected parts.

THE FLOWER GARDEN.

Antirrhinums.—The value of Antirrhinums as bedding plants is becoming generally appreciated. Some of the strains are sufficiently gay and continuous flowering to justify their being planted in the most prominent beds. In some instances the best whites, yellows, and crimsons have been selected, and the stocks increased by means of cuttings rooted in the autumn with Calceolarias and Violas. They can, however, be depended on to come true to name from seeds obtained from reliable sources, and in order to have abundance of strong plants for the flower beds in May these should be procured and sown at once

Place the pans or pots in a moist brisk heat well away from the hot-water pipes, cover with squares of glass, and shade heavily. After the tiny plants are seen gradually expose to the light, and prick them out into other pans or boxes directly they are large enough to handle.

Fibrous-rooted Begonias.—The semperflorens race of fibrous-rooted Begonias is rightly becoming popular for bedding purposes. The seeds germinate readily, and if sown now, or before January is past, strong plants in abundance can be had without much trouble. Seedlings are preferable to cutting-raised plants.

Tuberous-rooted Begonias.—The old tubers should still be kept cool and dry, and when they are started in March let it be in boxes of soil rather than in pots. These Begonias are at their best during the first and second years of their life, degenerating when kept longer. In order to have strong young plants of this year's raising ready for the beds next June there must be no further delay in seed-sowing. Give the preference to erect flowering varieties or strains for the beds. Take great pains with the preparation of pans or shallow boxes, finishing off with a layer of very fine loamy soil, which should be duly made level, firm, and moist. Sow regularly and evenly; do not cover with either soil or sand. Place the pans in a moist brisk heat, taking care that worms have no access to them. Cover with squares of glass and shade heavily. Examine frequently, and whenever the soil approaches dryness partially immerse the pots in a bucket or tank of tepid water, the moisture then draining without disturbing the minute seeds.

Hollyhocks.—These old-fashioned plants are again becoming popular. They are particularly effective at the backs of long wide borders, and also when grouped among newly planted shrubs. Seeds give many fine double varieties, but unless raised early and strong plants be turned out into the borders from the middle to the end of May, only a small proportion will flower this year. The seeds germinate quickly and surely in moderately strong heat, and after they have formed rough leaves, ought to be either pricked out in boxes or be placed singly in 3-inch pots, giving them a liberal shift before they become root-bound.

Dwarf Lobelias.—A large stock of the dwarf Lobelias for edging purposes is indispensable in most places. *L. speciosa* strains are among the most reliable, though *pumila magnifica* also comes true from seed. The puce coloured *L. pumila grandiflora* and White Perfection give a variety. Raised early, plants 4 inches across may be had by bedding out time. Many growers still raise their stocks from old plants kept through the winter. Young growths, if sufficiently succulent, root very quickly, but hard flowering tops are useless. Storing the plants on a stage over hot water pipes is a mistake, as this predisposes them to early flowering. Keep them in a light position in houses or pits where only enough fire heat is turned on to prevent damping and to keep out frosts, and the growths will be abundant and sappy. Thick masses of young growths will soon commence emitting roots above the soil, and at this stage of growth may be freely divided, every tiny division growing into a strong plant if subjected to gentle heat only.

Pentstemons.—There are many beautiful varieties of these to be obtained from a single packet of seed, some of the flowers resembling small Gloxinias. They look well in mixed beds or massed in the centre of circular beds, and those bright in colour or found extra good for bedding may be perpetuated by means of cuttings taken in the autumn.

Petunias.—There are several good strains of Petunias that are very effective in beds, the majority not unfrequently succeeding well in positions too hot and dry to suit most other bedding plants. Owing to the smallness of the seed, it is desirable that this should be sown before the sun gains greatly in power, or it is liable to fail in germination.

THE BEE-KEEPER.

APIARIAN NOTES.

HINTS FROM EXPERIENCE.

(Continued from page 42.)

BEES in a state of nature, or if allowed to act according to their instinct, seem to prefer those hollows having very small entrances. The latest absconding swarm I saw entered a barrel by a hole three-quarters an inch in diameter, and did well till the neglect of its owner allowed it to die for want in the April following.

Bees always propolise more or less the ceiling of their abode, but never beneath, unless to cover any substance that is repulsive to their senses, and to contract their entrances in the autumn, enlarging them when the singing of birds and the opening of flowers invite them to the feast of spring. We should never be too proud to ignore lessons in nature, which seldom leads us astray if we rightly understand them.

I have shown what bees do in the propolis way. Man improves on it. He recognises the habits of bees in nature, and keeps the crown close to the bars with permeable material, giving ventilation over that. Bees abhor space overhead or vacuums. After I had the supers removed from some hives last autumn, being in a hurry, I threw some calicoes lightly over the top of the hives. Two days after, when I went to trim them up for winter, the cloths were propolised closely, so that not a bee could escape.

Important, too, is the fact that bees consume less food when the interior of the hive is about 50° or a little more, and the outside temperature between 40° and 45°, than extremes of temperature high or low, which causes them to be restive, when much food is consumed. When the interior of the hive is kept at a uniform temperature there is no such uneasiness. When hives are too airy (by all means let bees have fresh air, but not more than is necessary), and a sudden fall of temperature follows a temporary and sudden rise, some of the bees which spread during the latter time become isolated and die. I have never known a case of the kind in my own apiary, nor have I ever had the floors of my hives covered with dead bees since I adopted ventilating floors. I made my first frame hives with dividing boards and ventilating floor in 1851. Comb foundation was not then invented, but I was using lines of plain sheets, and pared combs between grooved and split bars, a description of which subsequently appeared in the *Cottage Gardener*, the only work I had ever seen which treated on bees. During the year 1863 I was in full swing making comb foundation, and some years after taught the art by request to so-called "advanced" bee-keepers not up to date.

The whole question of successfully wintering bees lies in keeping them with ample stores in a perfectly dry state. This is insured by carrying the perspiration from the bees before it condenses on the combs or the walls of the hive, and allowing only as much air to enter as is necessary for the support of the bees.

Supering has been carried down to us from an early date, but the honour of bringing it to perfection belongs to the Scotch. This was amply proved at the first Crystal Palace Show in 1874 by the grand display of Scottish supers. Mr. S. Bevan Fox the year previous had a huge super about 70 lbs.—A LANARKSHIRE BEE-KEEPER.

(To be continued.)

SEASONABLE NOTES.

THE winter up to the present has been favourable for the bees, the weather on the whole being very open, and only occasionally has there been a little frost. On Christmas Day everything was covered with snow to the depth of a couple of inches, and it was accompanied by a few degrees of frost, which lasted just long enough to remind one that it was seasonable. By the end of the week a change had come; a higher temperature prevailed, but no rain has fallen up to the present (January 10th). Bees have been merrily on the wing, reminding one of spring. During the past week the temperature has been lower, the thermometer ranging from 33° to 38°; the barometer on one occasion registering as high as 30.76. Although I have kept a daily register of the weather for many years past, never before have I known the glass so high.

The early spring-flowering bulbs—such as Winter Aconites, Snowdrops, and Crocuses—are now quite green above the ground. Should the present weather continue, the two former in sheltered places will be in bloom in a few days, and with a higher temperature the bees will be on the wing, and will readily collect pollen from the fast-opening flowers. Fortunate is the bee-keeper who has a good stock of them within a convenient distance of his hives.

There is very little to be done about the apiary at this time of the year, but care should be taken that mice are kept out of the hives, and if previous instructions have been carried out very little harm will be caused by them. If any of the stocks show signs of being short of stores, steps must at once be taken to supply them with the necessary food. I find there is a great difference in the amount of food some stocks will consume in comparison with others; although they may have been given the same quantity of syrup in the autumn, they will vary very much in the amount of sealed stores a few months afterwards. This is doubtless owing to some stocks breeding much later in the autumn than others. It is wise, therefore, to make a slight examination of all the stocks about the present time. With a little practice one can soon tell if they are of the required weight, by simply lifting the back of each hive. Any of which there is a doubt should have a closer examination by turning the covering back, when a glance will at once show whether they are short of sealed stores.—AN ENGLISH BEE-KEEPER.

TRADE CATALOGUES RECEIVED

W. Cutbush & Son, Highgate.—*Seeds.*
W. Fromow & Sons, Chiswick.—*Seeds.*
W. J. Godfrey, Exmouth.—*Chrysanthemums.*
Laing & Mather, Kelso, N.B.—*Garden Seeds.*
Alex. Lister, 13, High Street, Rothesay.—*Seeds and Florists' Flowers.*
Little & Ballantyne, Carlisle.—*Garden Seeds.*
T. S. Ware, Hale Farm Nurseries, Tottenham.—*Seeds and Florists' Flowers.*



•• All correspondence should be directed either to "THE EDITOR" or to "THE PUBLISHER." Letters addressed to Dr. Hogg or members of the staff often remain unopened unavoidably. We request that no one will write privately to any of our correspondents, as doing so subjects them to unjustifiable trouble and expense.

Correspondents should not mix up on the same sheet questions relating to Gardening and those on Bee subjects, and should never send more than two or three questions at once. All articles intended for insertion should be written on one side of the paper only. We cannot reply to questions through the post, and we do not undertake to return rejected communications.

Asparagus (G. B.).—We cannot give you the desired information, but will make inquiries. Yours is the first question we have received on this particular subject.

Purchasing Greenhouse (J. R.).—As you signed an agreement in which the number of grates and boilers is specified, and if you have no written evidence of the length of piping, we suspect it would be presumed in law that the pipes were included in the bulk, and that you are liable to be bound by your agreement.

Office (W. S.).—We are obliged by your references. Can you remember the day and about the time of the call? We very much fear that our reply to the other section of your letter has been lost in transit to the printers. If you will oblige by repeating the information you desire, the matter shall have careful attention.

Orchids Resting (Inquirer).—To answer your query at all serviceably is quite impossible, for your list comprises many hundreds of kinds, requiring widely differing treatment in respect of their resting and growing seasons. Full directions as to most of the popular forms in the genera you name appear occasionally in this Journal, and in a general way we must refer you to them for information. If there are any special kinds you possess, and you are not quite sure of the treatment required by them, you had better send again, naming the species and what you wish to know about them, we will then do all in our power to help you. You may take it, however, as a general rule that the resting season for Orchids is during the winter months, and also that new growth usually starts in early or late spring according to the species.

Chemical Manure for Vines (J. F. C.).—There is no reason why nitrate of potash (saltpetre) should not be used instead of muriate of potash and nitrate of soda but that of expense. The mixture you propose—namely, 3½ lbs. superphosphate and 3 lbs. nitrate of potash—would cost double that given on January 2nd without any advantage as regards potash and nitrogen, and no better unless there was an excess of acid (hydrochloric) and the soda acted deleteriously, which would be obviated by adding 1½ lb. sulphate of lime to the mixture. Probably the best, and certainly the most expensive chemical manure for Vines is dissolved bones, three parts (or pounds); nitrate of potash, one and half part; and sulphate of lime, one and half part, mixed, using 1 to 2 lbs. to the square yard as an early dressing or when starting, and repeating at intervals of three or four weeks, after the Vines are in full leaf, during the season, according as the Vines appear to require nourishment. If the Vines do not usually colour well add half pound sulphate of magnesia to the mixture.

Chemical Manure for Fruit Trees (S. S.).—The following has been used with considerable success by our advice:—Bone superphosphate, four parts (lbs. or cwt.); muriate of potash, one part; sulphate of ammonia, half part; sulphate of magnesia, quarter part; mixed. Use 4 ozs. per square yard from the stem to 1 foot beyond the spread of branches, or broadcast over all ground 7 lbs. per rod, 10 cwt. per acre. If chalky supply nitrate of soda instead of sulphate of ammonia. Apply early in the spring, and if more growth is wanted supply ¼ oz. per square yard, ½ lb. per rod, 80 lbs. per acre of sulphate of ammonia (if loamy), or nitrate of soda (if chalky) when the fruit is fairly set and swelling, and again when half grown. But you want something cheap and effective. The following is the best we have experience of being used for bush and outdoor fruit trees (except Peaches and other tender fruits). In the autumn or early in the spring a mixture of equal parts superphosphate of lime and kainit should be spread over the ground under the branches and for a foot beyond, at the rate of 3½ lbs. per rod. The ground should then be pointed over and left till spring, then, when growth begins, sow the land with nitrate of soda, crushed fine, 2½ lbs. per rod on a dry soil, 2 lbs. if the ground be damp. The roots by that time will have become active, and they will grasp the nitrate for diffusion to the growing parts as required. For economic reasons half the nitrate only need be given in the early spring, reserving the other half until the crop is assured, then supplying it when the fruit is fairly set and swelling, or withholding it if the set is not good.

Black Currant Buds Infested by Mites (J. P.).—The buds on the growths sent by you are attacked by the Black Currant bud mite (*Phytoptus ribis*). The mites swarm in the large buds from the egg to the four-legged creatures. The buds, now the size of a Pea, should be cut off and burned, leaving the small ones, which, so far as we can discover, are not affected. It is possible they may escape the attention of the mites if the buds now infested be promptly removed. We also advise spraying with soluble petroleum, which may be procured from most nurserymen, following the instructions as to dilution, and operating on a fine day.

Rating Nurserymen's Greenhouses (J. H. B.).—It is certainly legal to rate greenhouses, but the following report of a test case, which went before the Supreme Court in 1887, may assist you in getting a reduction:—This case raised the question whether glass houses and greenhouses in which fruit, flowers, and vegetables are grown for market are to be rated at their full rateable value, or only at one-fourth value by virtue of sub-sec. 1 (b) of sec. 211 of the Public Health Act, 1875, which provides, *inter alia*, that 'market gardens or nursery grounds' shall be assessed in respect of one-fourth part only of the nett annual value. The special case found that George Purser, the appellant, was a grower of fruit, vegetables and flowers, carrying on business at Worthing, and describing himself as a 'market gardener and nurseryman,' and that he was the occupier of a piece of land of about 1 acre 1 rood upon which were sixteen glass houses or greenhouses of various sizes, used by the appellant for the purpose of growing Tomatoes, Cucumbers, Grapes, flowers, &c., in the course of his business. The appellant had been rated at the full rateable value in respect of this property under the description of 'greenhouses.' After hearing counsel on both sides Mr. Justice Day said he did not doubt for a moment that this ground was within the exemption and should be properly rated on the one-fourth scale. His Lordship considered this a market garden. It was a place used to garden in, and gardening was a term commonly applied to agricultural production of any kind on a small scale. His Lordship could not see that the garden was less a garden because it was wholly or partly under glass, or otherwise protected from the weather, or because it had walls or a roof. It was still a garden, and in this case it was a market garden, because it was used for producing fruit, flowers, and vegetables for market. Mr. Justice Wills was of the same opinion, and the rate was ordered to be amended accordingly.

Blind Chrysanthemum Buds—Mite and Mildew (S.).—The buds have had the embryonic florets eaten off by some pest; but though we examined every bud, we only found one larva and an egg of the Chrysanthemum bud mite (*Phytoptus chrysanthemi*). This is later than we have hitherto detected this species of mite on Chrysanthemums. We received some buds that must have been infested in the late summer, but there was nothing to be found beyond the devastation caused by the microscopic creatures. In your case and in that alluded to, the ovary part of the flower head had not been eaten out, nor, indeed all the florets, yet the work was characteristic of the mites, and we have no doubt was caused by them. This bud blindness has been common in some localities in the past year, some growers having lost 25 per cent. of the buds "taxen" for affording specimen blooms. The worst of the mischief is that it cannot be detected until too late for doing anything, and burning the buds has little effect in preventing the recurrence of the evil, as the mites migrate or have left the buds before it is discovered that they are "deaf." We do not know of anything better for preventing such attacks than occasional dustings of the plants with flowers of sulphur. This is hateful by its fumes to all mites, and seldom does harm to Chrysanthemums, but often much good in keeping them free from mildew. Perhaps you are not aware that the parasite is on your plants, or rather on the buds of those you sent us. We did not notice it with a pocket lens, but on subjecting a section of a bud to a microscopic examination two very fine forms of mildew were discovered. There was the familiar Chrysanthemum mildew (*Oidium chrysanthemi*, *Rab.*), but this was not nearly so interesting or important as the Turnip mildew growing along with it, for the sterile hyphæ of this species (*Oidium balsami*, *Mont.*) was twice as stout and three times as long in the joints (septa) as that of *O. chrysanthemi*, while the chains of conidia were quite as elongated, but the conidia, elliptical and truncate at both ends (barrel-shaped), were twice and, in some cases, three times longer, but not wider at the widest part than broadest part of the Chrysanthemum mildew conidium. This led to a closer examination and the discovery that *O. balsami* was only a magnified form of *O. chrysanthemi*. Naturally this so-called species (it is merely *O. erysiphoides*, *Fr.*, on cultivated Chrysanthemums) is found on the common Mugwort (*Artemisia vulgaris*), while that of *O. balsami* occurs on the leaves of various species of Mullein (*Verbascum*); but, so far as we have observed, rarely in this country, it being commoner on Burdock (*Arctium lappa*), and in the perithecium stage is known as *Erysiphe Montagnei*, *Lev.*, while that of *O. chrysanthemi* or *O. erysiphoides* in a similar is *E. Linki*, *Lev.* This has asci containing two sporidia, and *E. Montagnei* asci with three to eight sporidia. Upon these grounds *O. balsami* cannot possibly be referred to *E. Montagnei*, and, unfortunately *O. balsami* does not produce perithecia on Turnips, nor on any plant so far as at present known, except it be on *Artemisia vulgaris*, and if so it (*O. balsami*) is only a form of *E. Linki* in conidial condition, and not sufficiently developed to produce perithecia on its own account. Thus far your specimen was interesting; but something more was singularly striking, and that was the presence of a perithecium on the creeping hyphæ of *O. balsami*, where two septa of separate hyphæ crossed, and this was a

	s.	d.	s.	d.		s.	d.	s.	d.
Acacia or Mimosa (French)					Pelargoniums, 12 bunches	6	0	to	9 0
per bunch	1	0	to	2 0	Primula (double), dozen				
Arum Lilies, 12 blooms ..	3	0	5	0	sprays	0	6	1	0
Asparagus Fern, per bunch	2	0	4	0	Roses (indoor), dozen ..	1	0	2	0
Bouvardias, bunch	0	6	1	0	" Tea, white, dozen ..	1	6	3	0
Carnations, 12 blooms ..	1	0	3	0	" Yellow, dozen (Niels)	3	0	6	0
Chrysanthemum, doz. blms.	1	0	4	0	" Red, dozen blooms ..	1	0	1	6
" doz. bunches	3	0	6	0	" Safrano (English),				
Eucharis, dozen	3	0	4	0	dozen	1	6	3	0
Gardenias, dozen	2	0	4	0	" Safrano (French), per				
Geranium, scarlet, doz.					dozen	1	6	2	0
bunches	4	0	9	0	" Pink (French), per				
Hyacinth (Roman) dozen					dozen	3	0	4	0
sprays	0	6	1	0	Smilax, per bunch	5	0	6	0
Lilac (French) per bunch	5	0	5	6	Stephanotis, dozen sprays	6	0	9	0
Lilium longiflorum, twelve					Tuberoses, 12 blooms ..	0	4	0	6
blooms	4	0	8	0	Violets Parme (French),				
Lily of the Valley, dozen					per bunch	4	6	0	0
sprays	1	0	2	0	" Ozar (French), per				
Maidenhair Fern, doz. bchs.	4	0	8	0	bunch	2	0	3	0
Marguerites, 12 bunches ..	2	6	4	0	" Victoria (French),				
Orchids, various, dozen					12 bunches ..	1	9	2	6
blooms	1	6	12	0	" English, 12 bunches	2	6	0	0



PROFITABLE FARMING.

BEFORE farming ever can become anything like so profitable as is possible, there must be a radical change in the management of all land laid down to grass, whether it be in temporary or permanent pasture. To gauge the ability of the ordinary farmer by the condition of the pasture on his farm would induce the conclusion that he was ignorant of the first principles of his calling. Said this before? Yes, both said and written it many a time and oft, because we have had to reclaim so much poor pasture; because we know beyond a doubt that nine-tenths of British farmers have nothing in their practice that is at all an approach to the systematic cultivation of this important crop; because we know that no crop affords a more certain and profitable return upon outlay if only it is well and wisely done.

But we desire to be more particular in this matter. We have under our control an estate of which every farm held by a tenant is entirely in permanent pasture; the tenants are dairy farmers pure and simple. All of them are prosperous—some much more so than others. They are makers of Stilton cheese, and the quality of their special product is a very safe indication of their financial condition, the best cheese being worth to them from twice to thrice as much as the inferior cheese. So that in comparison with other farmers they do well; but the pity of it is they might do so much better, yet will not.

What we deplore so much on the part of these men and others is the lack of enterprise, of effort to improve. If only they would feel their way with the utmost caution, taking only a few acres of poor unsatisfactory pasture for special treatment, keeping entries of cost, of sorts of manure, of the time of application, of results, it would tend to develop intelligence, to impart confidence, to bring conviction that by a judicious outlay and timely application the whole of their pasture would become much more profitable.

Perhaps the most important part of such knowledge is a clear grasp of what full and sustained fertility of soil really is. It implies that the soil shall contain a full supply of available plant food during the whole season of active growth, and also sufficient of it for the wants of the pasture from autumn till spring, the test at midwinter being a fresh healthy green hue everywhere—all over the pasture. Pray go, gentle reader, and have a look over your pasture after reading this, and if instead of this uncommon ruddy hue of health and vigour you find it has the common brown tinge—or very much more than a tinge—you may safely conclude that you are a defaulter, having something to learn which will repay you admirably for your resolution to obtain the knowledge, and the pleasure and profit that comes with it.

We place some stress upon the importance of sustained fertility of soil in winter, because since Sir John Bennet Lawes published the fact that there is some loss of nitrogen by water filtration through soil in winter, students have been taught that nitrogen must be withheld before the cessation of active growth. Such teaching, however applicable to arable land, we hold to be misleading as to pasture. We have found it so among our own students, and have therefore been at some pains to convince them that such loss of nitrogen—the very soul of fertility—is so trifling from land in pasture as to be immaterial, and that it is of much more consequence to see that fertility is well, not extravagantly, sustained during winter.

To take an example, we are folding sheep on poor upland pasture now, as the most economical and one of the most

efficient means of storing the land with fertility for next season. When spring comes we shall be certain of an early strong growth after the folds, which would be impossible were the nitrogen to be lost. Here, again, we deplore that we cannot induce our dairy farmers to fold their sheep in this profitable manner in winter. They have plenty of sound upland pasture, but pasture folding is not a local custom with them, and if they gave it a second thought it would be regarded as a fanciful thing “wi’ nowt in it.”

In the northern counties sheep folding on arable land is very well done; so, too, is it in East Anglia, where it is also applied to a variety of green crops. No finer sight in farming is there at this season of the year than the splendid hoggets folded both on Norfolk and Suffolk farms. As Lord Leicester’s admirable pioneer work in laying down land to temporary pasture bears fruit, as it is bound to in that district, we have no doubt folding will be more and more extended, simply because its full value is understood. It is a factor in profitable farming of prime importance, enabling us on the one hand to avoid the costly manufacture and use of farmyard manure, and on the other the purchase of chemical manures.

(To be continued.)

WORK ON THE HOME FARM.

On most southern farms lambing begins this month, and due care must be taken that nothing is wanting for the shepherd’s use and the comfort of the ewes. Where there is no lambing yard a commodious fold must be prepared in a sheltered position, with ample accommodation of separate cribs for each ewe as it lams to be placed in with the lamb. We know no better plan for the fold than parallel lines of hurdles around it about a foot apart, with the space thus made stuffed closely with straw or litter; then, with a roof of thatched hurdles all round, and the requisite division, cribs are easily continued, the central space being also available.

Outside of and connected with this fold are one or two other enclosures for the ewes at night—or rather the ewes and lambs, as we always avoid risk of harm at night by having lambs thoroughly sheltered. We have known losses mount up so fast from carelessness in this matter—lambs left out on bleak pasture, stiff and cold in the morning, and the shepherd bemoaning his “bad luck.” Such stupidity is exasperating. Let the master protect himself against it by taking timely precaution and a look round himself in the evening.

Avoid needless worry and interference with the sheep. Shelter, quiet, plenty of sound, wholesome food, a watchful eye, a ready hand, dogs used very little, if at all, and if the ewes are sound there will be very few losses. Never forget that it is wet with cold that it is so fatal to lambs, and, if the weather is very unsettled during the period, newly lambed ewes must be kept longer than usual in the cribs, and other contrivances for shelter arranged. Do anything rather than expose them to risk of harm from inclement weather, using every hovel or building to be had. We have even seen waggons filled with litter drawn up in a semicircle with thatched hurdles outside on the ground, so that the sheep to go under the laden wagons for the capital shelter thus contrived.

At many a farm it is a case of necessity to contrive all sorts of make-shifts, and highly creditable it is to those who manage so well with them. Better far is it to provide suitable accommodation for the flock, and to place in the hands of those having charge the requisite means of caring for it with ease and certainty.

METEOROLOGICAL OBSERVATIONS.

CAMDEN SQUARE, LONDON.

Lat. 51° 32' 40" N.; Long. 0° 8' 0" W.; Altitude 111 feet.

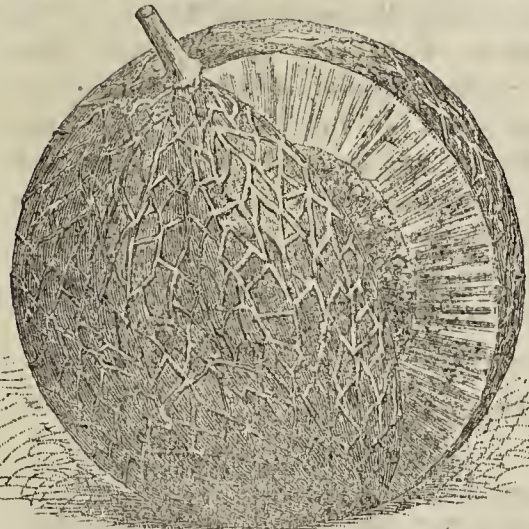
DATE.		9 A.M.				IN THE DAY.				Rain.	
1896. January.		Barometer at 32°, and Sea Level.	Hygrometer.		Direc- tion of Wind.	Temp. of soil at 1 foot.	Shade Tem- perature.		Radiation Temperature.		
			Dry.	Wet.			Max.	Min.	In Sun.		On Grass.
		Inchs.	deg.	deg.		deg.	deg.	deg.	deg.	Inchs.	
Sunday	.. 5	30.549	39.7	37.9	E.	43.0	41.6	39.0	43.9	38.4	—
Monday	.. 6	30.689	37.8	36.0	E.	41.9	38.9	37.3	39.8	37.0	—
Tuesday	.. 7	30.696	34.2	32.9	N.	41.0	42.1	33.7	49.0	32.5	—
Wednesday	.. 8	30.717	41.7	41.2	N.	40.1	45.1	32.0	50.3	33.1	—
Thursday	.. 9	30.886	34.4	31.6	N.	40.1	40.0	31.2	57.3	25.2	—
Friday	.. 10	30.836	35.0	33.9	N.	39.0	38.9	33.4	41.4	27.4	0.050
Saturday	.. 11	30.684	38.3	38.3	N.	39.0	43.0	34.4	47.6	31.5	—
		30.721	37.3	36.0		40.6	41.4	34.4	47.0	32.2	0.050

REMARKS.

5th.—Overcast all day.
6th.—Overcast and rather dull.
7th.—A few snowflakes early, fair day, with a gleam of sun in the morning.
8th.—Fair day, with occasional spots of rain.
9th.—Bright sunshine almost throughout.
10th.—Overcast morning; sunny afternoon; flakes of snow at 6 P.M., turning to drizzle later, and rain between 9 and 10 P.M. Barometer corrected and reduced at 9 P.M. 30.934 inches.
11th.—Rain from 8 to 9 A.M.; gleam of sun at 10; overcast day and a slight shower at 1 P.M.
Week chiefly noticeable for extremely high barometer and for equable temperature.
—G. J. SYMONS.

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Mr. J. MAYNE, The Gardens, Bictou, Budleigh Salterton, says in last week's *Gardeners' Chronicle* :—

"TOMATO FROGMORE SELECTED.—As most gardeners will soon be making out their seed orders, I feel sure they cannot do better than purchase seeds of the above variety. I had it in cool Peach-houses and outdoors last season, and it fruited very well, each plant trained as a single cordon, carrying many bunches of fruit, to the average number of ten, of large and even shape. The flavour is excellent. I purchased the seed of Messrs. Veitch, of Chelsea, who obtained the original stock from Mr. Thomas, the Queen's Gardener, and distributed it last season. I feel confident this variety has a future before it."

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Journal of Horticulture.

THURSDAY, JANUARY 23, 1896.

CO-OPERATION, YET DIVISION.

THE pages of the *Journal of Horticulture* have, during the past year, been adorned with many succinct articles portraying the advantages of co-operation in the various branches of horticulture, and also of the need of a systematic division of labour, which tends to create a large body of specialists in the various departments.

These conditions may at first sight appear to be in direct opposition to each other, but in reality it is not so. The co-operation is in the establishment of gigantic trading concerns, by which means enormous quantities of materials can be purchased at a great advantage in regard to price, and the whole concern, like everything done on a big scale, worked on economical lines. This places the small grower at a great disadvantage, but at the same time enables us in many directions to compete successfully with foreign rivals. As an example of this let me instance one modern industry, recently described in a *Journal* leader, in which is unfolded with great perspicuity the process by which Lily of the Valley and other plants are retarded instead of forced in order to place them on the markets when they are in great demand. The small grower could not afford to adopt the expensive refrigerating apparatus necessary for the successful conduct of this industry, and is therefore very much handicapped in the competition.

Then in regard to the division of labour. These great establishments are divided into departments, each under the control of a specialist in that particular branch, forming as it were a separate machine, yet all receiving their motive power from one great engine, which in the language of metaphor represents the firm, and thus the apparent enigma—division, yet co-operation—stands clearly revealed. Under such circumstances, I think it must be apparent to all thoughtful gardeners that in establishments like these they have the double advantage of being able to purchase their raw material in the cheapest market, and of securing the highest cultural management in the various departments. They are therefore absolutely without fear of competition from men who have to produce flowers, plants, fruits, and vegetables of all kinds, and in addition

No. 2469.—VOL. XCIV., OLD SERIES.

labour under great disadvantages in the purchase of their raw material and in the general conduct of their affairs.

It seems to me that the above remarks show fairly and clearly the relative positions of the British gardener in private places and that of trade growers in regard to their facilities for the production of various crops, and it amounts to this: "That the former cannot grow really superior produce at so little cost as the latter." Of course, there is the great pleasure of having everything grown in one's own garden, and in prosperous times our nobility and gentry without doubt thoroughly appreciated this; but in these days of agricultural depression the expense is often the only thing considered. In the face of these undoubted facts it is a matter for serious consideration whether or not gardeners should revolutionise their tactics in garden management.

Under the old conditions a good all-round establishment kept up a constant supply of all that was needed of garden produce. Some things were grown for which the demand was conspicuously uncertain; the great aim was to have plenty of everything. This often entailed a good deal of useless trouble and expense, notwithstanding the fact that it was not noticed in those easy-going times, and, moreover, some things could not then be obtained in the markets. Matters in this direction have now entirely changed. The increase in the number of the wealthy middle class long ago caused a demand for many horticultural luxuries to emanate from people who could well afford to pay for them, but who could not keep up sufficiently large gardens to grow all for themselves. This fact was in time grasped by trade growers, and the demand quickly supplied.

Taking all these things into consideration my belief is that very large and good all-round gardens will in the future be conspicuous by their absence. Gardens will become more ornamental rather than productive. Flower and pleasure gardens will be well maintained, though perhaps on a less extensive scale than formerly, and a certain amount of glass structures maintained to provide a supply at ordinary times, especially of the odds and ends that are always in demand; but whenever any special event is to take place the great markets of the country will supply the bulk of the materials required. This may, perhaps, to many appear an unsatisfactory state of affairs for gardeners; but if the matter be examined closely this view will, I think, be greatly modified, for gardeners in private places have been gradually drifting to a position which is becoming untenable. I have shown that they could not compete with trade growers in the production of really first-class produce at a comparatively low price; but there is still another point to consider. It is this:—

Social functions in these "electric" days are sometimes arranged with such startling abruptness, that it is often impossible for gardeners to provide sufficient material by a given date, no matter what conveniences they may have; but in our great markets the supply is invariably abundant, and by giving a few days' notice any quantity of flowers, fruit, or vegetables in season may be secured, simply because we have the resources of the whole country to choose from—aye, more, for rapid methods of transit have placed the flowers of such sunny lands as Spain, Italy, Belgium, and Southern France on our markets. In winter and early spring this is a distinct advantage, because the flowers being grown in the open air possess more substance than do those of the same species and varieties which are forced in English hothouses, and the time taken for the foreign flowers to travel here counts for little in point of freshness so long as the weather is cool, and when warmer days come we have flowers enough in our own land.

I do not write without considerable experience in this matter, as I have arranged thousands of continental flowers of various descriptions, and since beginning this article I have unpacked several large boxes as they arrived; their contents were indeed satisfactory from a decorator's point of view. First I found Carnations, cut with long stalks and plenty of "grass;" then grand Red Safrano Roses, with good stems and tough glossy

leaves. Maréchal Niel Roses and others of a cream colour were unearthed as the work of unpacking went on. White and yellow Narcissi were there in great abundance; and so were Anemones, of various and bright colours; the whole perfectly fresh, and none the worse for their long journey.

Before concluding, it is perhaps well for me to add that I am a firm believer in the British article, and also in the necessity of fostering British trade; but during the present month I have as yet found it impossible to get enough British-grown flowers of the right character, especially those with long stems, which also possess good lasting qualities; and I question if the British grower will ever be able to compete with the foreign rival during the month of January. The former has to spend much time and money in forcing to get flowers then; the latter simply grows them in the open air, thanks to his mild winters. His triumph, however, does not last long, for with the return of sunny days Britain is a land of flowers.—BRITISH GARDENER.

UNWRITTEN LEAVES.

UP on the shelf, beside its predecessors, have we placed our modest diary, and with what pride has a new one been opened—turning over a new leaf, several new leaves. Hundreds nay, even thousands, of those cheap and useful office diaries are, in all probability, to be found lying on gardeners' desks in the office, or in the cottage, and, I trust, in many a bothy too, for

"'Tis granted, and no plainer truth appears,
Our most important are our earliest years."

Presumably the bulk of these all but virgin pages will be filled with a faithful record of work done. Some few, indeed, but few I fear, may go farther than the historical descriptive, and from the philosophical speculative, conscientiously note down such omissions as cannot fail to have their correlative influence on the balance-sheet to come. This, obviously, is broaching another phase of the subject—the autobiographical. Our diarist, in this instance, would be apt to inscribe "Private," and place the telltale under lock and key. Rightly so. He is a strong man who knows his weakness, but a stronger man is he who would publish it to the world.

So into no particular diary may we peep, but venture a few thoughts on generalities. I shall but turn back to one on the shelf—my shelf, remember—marking an era in life. There is a good deal written on its pages which brings up pleasant thoughts, and much that is unwritten—spaces haunted by the ghost of vain regrets. I was then entering into that hard, grinding school of experience, and it is for the benefit of young men now one brief extract shall here be given, for it yields me unalloyed pleasure. It runs thus:—"January 1st, 18—. Joined the Gardeners' Royal Benevolent Institution." Each year, when the report of that Institution comes to hand, am I vain enough to seek out my humble name, and take a perennial pride in annually seeing it getting farther back. Why, if I go on living and looking back it will eventually be the oldest name on the list, and if only one of my masters had carried this matter into the bothy, environed with the moral force of his position and its claims, then an additional ten years might now be gloated over. You can now go back on the shelf "No. 1" of the then new series, the filling of our fresh book must proceed.

How replete with possibilities are these uninscribed pages. Old travellers, young travellers, all eager to make a record over the new, the unknown course, knowing only that the pace is ever increasing, the jostling more and more severe in competing for prize, or place, or power. How necessary then to start girt with the strength of past experience—our own and that of others. Too often is the race of life run by the phantom light of luck. "Lucky men." "Unlucky men." Who and what are these men so called, or rather miscalled? Take one specimen of either, analyse him, and what are the qualities which go to form the whole? Not an easy task I admit. Our specimen might wriggle a little uneasily, especially if of the unlucky (?) variety. From a phrenologist's point of view my ideal subject should have two bumps pre-eminently prominent, the one consisting of knowing what to do, the other of energy to do it, and these are, to my mind, all-sufficient to show a successful balance-sheet when the tale of the year is told, or in the grand total when the series are closed for aye.

In knowing what to do—we all know that, especially young gardeners—no slight on our coming men, perhaps better ones, anyway, it shall not be our fault if they are not so—it is not

inopportune to refresh the memory at this season of the year with a few retrospective glances. Not very far back, indeed, for rather must we be taking time by the forelock than chivvying at the heels of dead and gone years, but we must take a look back at the last race to guide us in the coming one. What are we specially entering for? Is it fruit or vegetables, stove plants or timber, or, what is more probable, the stakes of an all-round successful gardener's career, "express Grape growing," vegetables in due season and out of season, well-filled dishes and satisfied diners, the Apple-room filled and running over, and the thousand and one things which may be inscribed on the unwritten leaves as they are daily turned over?

The year's work of the *Journal of Horticulture* is pretty comprehensive on these matters. That is admitted, and consequently its readers generally know what to do. From an Onion to an Orchid, equally important, there is no fighting in the dark with unknown evils, so clearly has the letter of the law been laid down. Join to that the spirit of observation, for the subject is too elastic to be brought to the dead level of routine, and this phase of the subject may be dismissed with the deduction that intelligent readers know what to do so far as revealed doctrine stands. Further concessions wrung from Nature by the scientist or successful practitioner will be laid down accordingly for our edification.

The new year brings with it to all a stimulative feeling peculiar to the season. He is, indeed, pessimistic who does not feel its influence. But, as with all periods or phases of excitement, a reaction is prone to follow in its train. A new leaf has been turned over, but the ensuing pages fall short of the original sample. Energy is the mainspring, but prudence is the pendulum, without which the motive power is quickly spent. So evident is this in some cases that a spell of ill-luck (?) appears to accompany the cultivator to the end of the book. There is a beautiful childlike simplicity in trusting to Providence, but unqualified folly in tempting it, which is not rarely apparent.

It is early yet to talk of May frosts, but it is not too early for these contingencies to enter into present calculations. Doubtless, keenly observant ones are already thinking of preparatory measures to cope with or mitigate these or similar evils. We may take it that one man has noted how tender seedlings have been annihilated whilst earlier sown seeds of the identical variety have developed sufficiently strong constitutions to pass through the ordeal unscathed. Another will not trust to appearances, however propitious the season may appear, but scrupulously moulds his early Potatoes or what not daily. Still another is prepared for, and equal to, any emergency which may arise, consequently "what a lucky man he is!" "saved his Strawberries in that awful frost," and so on; whilst the unlucky one arises in the morning to shiveringly ejaculate over the forlorn hope, "Oh, it's something cruel!"

British weather is a prime factor to bring out a man's inventive faculties, for

"A mouse that always trusts to one poor hole
Can never be a mouse of any soul."

It is astonishing the variety and number of ways and means an ingenious mind will press into service to gain the end. A former curator of the College Gardens, Dublin, awoke one hard night with a presentiment of danger to some newly imported plants. All the usual coverings were in use; nothing could be spared, but invention sprang from dire necessity, and the blankets were hauled off his bed to keep Jack Frost from his plants. The personal sacrifice is, I suppose, equally as great when prompt action defeats some sudden visitation by smart work in the "wee sma' hours."

The early pages of our diary are truly momentous ones. How will they be filled? Will December, 1896, tell a tale of woe or be very pleasant reading, so far as our work is concerned? We are dependent on the weather, the rain, the sun, frost timely or untimely, some will say, but as we are yearly more and more impressed with the utter futility of doing so, it behoves us to depend very much on our own exertions. If the weather prove good, well and good; if bad, let things be not so bad but what they might have been worse.

There is nothing, I think, better qualified to develop the latent energies of a gardener than honest rivalry, unless it be one indirect phase of the subject, which I hope to treat of in another article to which it is more distinctly relevant. Rivalry in its more active form brings exhibiting to the mind, but that all cannot thus compete is obvious. With a few diffidence is, perhaps, the deterrent, arising from a lack of energy, not from a lack of knowledge of what to do. With the majority other considerations deprive them of this incentive to the highest efforts. Another form of rivalry is open to all, and there are few but what enter into it, although possibly unconscious of the benefits derived. This is quiescent competition. We do not like to see our neighbour's Cucumbers or

Cabbages, Grapes or Roses, or anything that is his, better, or bigger, or earlier than our own. From the surreptitious peep of the cottager over the garden wall at his neighbour's produce to the friendly exchange of visits made by gardeners of all grades is the same spirit of rivalry noticeable, and I cannot but think that it is a good spirit gently spurring on to higher things.

How pleasantly the pen will glide over our diary when writing down so many prizes at a certain show; so many tons of Potatoes from a certain field where the knapsack sprayer went its rounds before the blight gained ground. Ah, we shall hear a good deal of these and similar successes in these pages—the *Journal of Horticulture*, and we shall, as we ought, be glad to hear of them. It is a pleasant and satisfying tribute to the man who knew what to do, and has done it. But there is a reverse to the picture, seldom shown. It is from the two views I have endeavoured in this brief homily to fill in figuratively the yet blank pages. How shall they be literally written as we daily unfold them?—PAPYRUS.

APPLE LORD HINDLIP.

WE announced last week that an award of merit was granted by the Fruit Committee of the Royal Horticultural Society for this variety. We believe that every member voted for it but one, and he did not



FIG. 11.—APPLE LORD HINDLIP.

vote against it. The fruits were exhibited by Mr. John Watkins of Hereford, who may be expected to know a good Apple as well as do most people. We give an illustration of one of the fruits—not the largest, but as fairly representing its size, while its shape is correctly delineated. The tree was described as a good grower and free bearer. As stated last week, the fruit is yellowish green with crimson streaks rising from the base, the colour deepening on the sun side, and flecked with russet; stalk long and slender; eye small, closed; flesh tender, sweet, and pleasantly flavoured. Lord Hindlip is a Rosemary Russet type of Apple, and was regarded as a welcome addition to late dessert varieties.

HARDY FLOWER NOTES.

At this early season it is impossible to have any idea of the probable weather for even a day in advance. Thus, although up to the time of writing it has been exceptionally mild, fogs have been prevalent, and there has been little of that sunshine we so much value, weak though it is at this season. We cannot, however, but feel more hopeful now that the days have begun to lengthen, and the garden shows signs of life by the re-appearing of bulbs which are now peeping through. Soon will there be sheets of Snowdrops in place of the small clumps of a few, and soon the brilliant Dutch Crocuses will yield their flowers in patches of glowing gold, deep purple, white, or of various delicate shades of lilac or light purple. These are for the future though, and we must look for something in the present less attractive and in consonance with the time of year.

Galanthus Elsä opened fully in the end of December, and as it has improved considerably by being established for a few years, one is better able to appraise its merits. It was found among some roots collected on Mount Athos in Greece by Professor Mahaffy, and flowered first in this country in December, 1889. Mr. James Allen of Shepton Mallet, in his paper on "Snowdrops," read before the Royal Horticultural Society on 10th March, 1891, spoke of it as a "dwarf variety with small flowers of good form," adding "but I fear it is not very robust or hardy, as the frosts of last season injured the leaves, and it has not flowered this spring." In several communications I have since had from Mr. Allen he speaks in similar terms of this Snowdrop, which does not appear to succeed everywhere. In my garden it is doing very well, and increasing in vigour and beauty every year. Mr. W. B. Boyd of Faldonside, Melrose, who shares with Mr. Allen the honour of being among the best informed of our amateur Snowdrop growers, also speaks unfavourably of the difficulty of growing this and other precocious Snowdrops, recommending lifting and drying off annually. The unfavourable opinion formed by my able correspondents must be due either to the soil or climate of their gardens being unsuitable to these *Galanthi*, as nearly all of them succeed with me in the sandy peat of my garden.

I find *G. Elsä* no dwarfier than the ordinary February-flowering *G. nivalis*, and with flowers of equal size and of much better form than the type as generally seen. A very remarkable feature in *G. Elsä* is the absence of the white line down the centre of the leaf which generally marks the early-flowering varieties. I attribute some of my success to deep planting—a system which appears to suit nearly all Snowdrops. In planting I generally leave a small hollow for the first year, so that the plants will not be too deep at first, and fill this hollow up gradually (in two years or so) until level with the surrounding surface. They might succeed if deeply planted at first, but the first season they seem to have a difficulty in accommodating themselves to the change, and are frequently unable to throw up their leaves so that they may attain their ordinary length. Deep planting appears more beneficial, however, in light soil than in a heavier one, and will be found to add to the vigour of the plant and the size of the flowers.

The want of sun has been unfavourable to the winter-flowering Crocuses, and hardly any have opened, although in bud for some time. *C. hyemalis* and *C. Imperati* seem wearying to open their pretty flowers, while the bright little *C. ancyrensis*, although also unable to open, yet brightens up its allotted corner with its bright orange flowers, which are uncoloured by brown on the outside. They are small, but very bright in colour, which it is almost unnecessary to say is welcome at this season. In Mr. Maw's monograph it is included in the Division *Nudiflori*, or species without a basal spathe, and in Section I. *Reticulati*, which includes those which have a corm tunic of distinctly reticulated fibres. Mr. J. G. Baker has arranged the genus in a different way, and includes *C. ancyrensis* in the Section *Holostigma*, having the style branches entire. It received its name of *ancyrensis* from Dean Herbert, who only included it, however, as a variety of *C. reticulatus*. In his first monograph of the genus, which appeared in a contemporary, Mr. Maw mentions that Mr. Baker named it *C. susianus* var. *ancyrensis*; but in Mr. Baker's "Handbook of the Irideæ," published in 1892, this has been departed from, and this Crocus appears as a distinct species, and Mr. Maw remarks that it occupies a distinct region to that of *C. susianus*. Herbert obtained corms from Angora, but it is abundant in many parts of the centre of Asia Minor. In his "Notes on the Life History of a Crocus, &c.," contributed as a preliminary to his monograph to the Linnean Society in 1882, Mr. Maw says that he had detected in *C. ancyrensis* the presence of a spiral coil or double loop, described by Mohl, followed by Edgworth, as present in *C. aureus* and its allies, and which Mr. Carruthers ascertained is due to the thinning or channelling of the outer coat of the grain. This may be of interest to those who delight in microscopy. I find no difficulty in growing *C. ancyrensis* in the border, but it does not increase very rapidly, which is unfortunate, as a mass of its bright flowers would be very pleasing. The early Irises, such as *I. histrio* and *I. reticulata histrioides*, are making slow progress despite the mildness of the weather, and to all appearance we shall have some time to wait before they open to delight us with their charming forms and colours.

Some seasons with a little protection the Poppy Anemones are exceedingly attractive in midwinter. This is one of these seasons, and I am regretting that I am not provided with a few more of the small glass hand-lights, which are so useful for winter flowers, in order that a few more clumps of *Anemone coronaria* might be covered. Very beautiful under glass are these Poppy Anemones, and valuable for cutting now that Chrysanthemums are nearly over. For an alpine house with a very little heat these Anemones would be charming things.

The early Saxifrages and other flowers, which in sunny winters are in bloom before this, still linger as if loth to expose their charms to the fogs which shroud the garden so often from view; but on one of the rockeries a plant or two of a variety of *Cyclamen Coum* from the Bithynian Olympus, with zoned leaves, is very pleasing with its little crimson blooms. This little "Bleeding Nun" is, it is almost needless to say, often looked at and admired when passing by.

There are here and there some flowers out of their due season which we look at with pleased but pitying thoughts. There are Primroses which seem in truth those of which Shakespeare spoke when he said:—

"Pale Primroses
That die unmarried, ere they can behold
Bright Phœbus in his strength."

Lithospermum prostratum, *Ionopsidium acaule*, Mule Pink Miss Patterson, a solitary flower of the Barbary Ragwort, *Othonnopsis cheirifolia*, a stray *Auricula* or two, and some other belated or precocious flowers which ere long will repent the temerity which induced them to flower so untimely. Still, they help to carry us over until brighter days yield us the early flowers of spring which, as the late George Augustus Sala said, "always bring with them the greatest degree of pleasure," and their beauty, dimmed though it is by sunless days, helps to cheer us when the gloom of the weather enters our hearts.—S. ARNOTT.



LYCASTE SKINNERI.

ALL the members of the genus to which this well-known plant belongs are essentially Orchids for beginners, being very free blooming, varied and beautiful in colour, easily procurable, and of the simplest culture. The present species would probably rank among the half dozen most useful kinds in existence were these named. *L. Skinneri* may be grown in the cool house with *Odontoglots* and similar Orchids, this being, in fact, the most suitable place for it, but it is by no means hard to please in respect of temperature. It may be accommodated in a shady frame during the summer months, removing it in the winter to a cool house, and if the temperature does not go below 40° it is quite safe, though probably the flowers will be rather later; or, if care be taken to keep it free of insects, it may be grown in an intermediate or *Cattleya* house, though cooler treatment is preferable.

In any case, a shady moist position must be found for it, the somewhat thin and tender foliage being easily injured by bright sunlight, and also falling a prey to red spider if the atmosphere is kept too dry about it. The cleaning of the foliage is an important item in the culture of this Orchid, for on the health of this depends to a great extent that of the plant. If scale or red spider are seen to be getting a foothold no time must be lost in setting about it. Tepid soapy water, in which a little strong shag tobacco has been steeped, or to which a little tobacco water has been added, should be used, mixing enough to fill a vessel in which the plant may be entirely immersed. Dip each one separately and lay them on their sides, so that the liquid does not run down into the compost, and before it has time to dry each one must be carefully and thoroughly sponged leaf by leaf. Afterwards a good syringing with clear water will complete the business and wash off any chance insect that may remain.

The roots of *L. Skinneri* are capable of pushing into a more substantial compost than many of the pseudo-bulbous kinds, but they must not have so heavy a medium as the truly terrestrial species. About equal parts of peat fibre, chopped sphagnum, and mellow loam will answer well as the basis of the compost, but a few pieces of charcoal, crocks, or both, must be mixed with it to lighten the bulk and to insure a supply of air to the roots, without which no Orchid will be satisfactory. Large plants will not need to be repotted very often, so when this is done it is well to give thorough drainage and protect it, so that the peat does not silt downwards. The plants being shaken out of the old soil, reserving all the roots that are healthy and cutting out all the decayed parts, they must be placed in position with the base of the pseudo-bulbs just below the level of the rim of the pot. Spread the roots out thinly, and fill up to the bulbs with the compost, adding more potsherds if it is seen that the peat and other materials are likely to run too closely together. Frequent sprinklings

will obviate the necessity of much root watering at first; but if the repotting takes place in spring the roots will soon again be on the move, and an increased supply will be needed.

The plants are growing all through the summer months, and generally finish up their pseudo-bulbs in late autumn, and though they usually rest awhile they must never be dried at the root. The flower spikes push up in early winter, and if the bulbs are strong it is remarkable what a quantity of flower they produce. Each spike emits a single blossom; these in the typical plant are nearly white on the sepals and petals, the lip shaded with rose and profusely spotted with crimson. There are varieties innumerable, no two plants producing flowers alike in every particular.

The white form *L. S. alba* is a chaste and beautiful Orchid. The flowers are not usually quite as large as those of the type, but are well formed, the sepals, petals, and lip being pure white, the latter being marked about the centre with yellow. Deeply coloured forms are also plentiful, and among these may be mentioned *L. S. nigro-rubra*, *L. S. rosea*, *L. S. purpurea*, and *L. S. superba*. Some forms are nearly white, as *L. S. vestalis*; while others show a rich contrast in the colour of the lip and the other segments, as *L. S. purpurea*. All the forms are beautiful and last long in perfection, from five to seven weeks being by no means unusual.

This fact makes the species one of the most useful Orchids for house decoration, but, unfortunately, the plants are often kept in far too long, this being detrimental to them. Still, they are long-suffering in this respect also, and if kept fairly well watered at the root and the foliage sponged occasionally they soon pick up again when placed in more congenial quarters. As hinted above, the temperature they are grown in has a marked effect on their flowering season, and this may be considerably prolonged if sufficient plants are grown by keeping them in various temperatures, and by starting them at different times. All the varieties are natives of Guatemala, whence the typical form was introduced in 1842.—H. R. R.

ROYAL HORTICULTURAL SOCIETY.

JANUARY 14TH.

SCIENTIFIC COMMITTEE.—Present: Dr. M. T. Masters (in the chair); Dr. Müller, Rev. W. Wilks, Mr. Douglas, Mr. Michael, Dr. Russell, and Rev. G. Henslow, Hon. Sec.

The Colouring of Flowers and Fruit.—The following communication was received from Mr. Roupell of Harvey Lodge, Roupell Park, in reply to inquiries upon the artificial colouring of Apples:—"The lime used was the best chalk lime air-slaked. The lime and soot formed part of the compost with which they were planted; say, one part soot, two parts lime, two parts charred refuse from rubbish heap, and twenty parts ordinary kitchen garden soil, carefully blended. In this comparatively dry and warm compost the trees made short growths of well-ripened wood and bore well the second year. I have since had lime and soot sown over the trees just before the buds began to burst in the proportion of two parts lime and one part of soot, and at the rate of half a pound of the mixture to the square yard. This served as a protection against the larvæ of certain moths as well as a manure. The soot and lime should be used quickly to avoid the escape of ammonia. The mixture caused a deeper colour in Apples and Pears. This was especially so in Lane's Prince Albert, Red Joaneting, Mr. Gladstone, Irish Peach, Melon Apple, Cox's Orange Pippin, Beauty of Kent, and Peasgood's Nonesuch. The pale green varieties, such as Lord Suffield, were, I think, made to assume a deeper green, just as Grass and Wheat do when dressed with a similar mixture. My experience is that Pears and Apples are more highly coloured when grown on a soil abounding in iron and dressed with lime and soot than in a soil deficient in iron and lime. Louise Bonne of Jersey, Beurré Clairgeau, Trout Pear, Clapp's Favourite, Durondeau, Beurré Rance, Uvedale's St. Germain, Verulam, Vicar of Winkfield, and Catillac are deficient in colour when grown on a cold clay soil. I have also observed that Apples and Pears are more brightly coloured in a good showery season than in a very dry and hot one, and that some Apples, such as the Dartmouth Crab and some astringent cider Apples are red all over or not, merely on the sunny side." With reference to other fruits, Mr. Roupell further remarks: "Black Grapes colour best in partial shade, and white varieties when exposed to the sun. They then assume an amber tint. Thomson's Vine manure intensifies the purple or black of Grapes. Green Tomatoes become red when ripened in the dark, and some Apples gathered green become deep yellow and flushed with crimson, according to the variety in the fruit room." The Secretary observed that several letters had appeared in the "Gardeners' Chronicle" upon this subject, some writers attributing the brightening of the colour mainly to "air and direct sunlight," others to the presence of iron, sulphate of iron and soot being given. "The iron helps the colouring by its absorbing sun heat, and thus rendering the soil warmer." One writer observed that of 100 trees of Wellington Pippin only one gave red Apples, and "that tree had soot and iron given to it. With these, and plenty of light and sun, I get the best colours I can wish for." The writers generally insist on a warm soil. In commenting on these experiences, Dr. Müller observed that it was theoretically doubtful whether the iron—a common ingredient in all soils—has any effect, as it

enters only to a very minute extent into the essential parts of plants (the chlorophyll). If it be applied with lime, then the solution of iron sulphite, under the influence of the air, is very soon changed into calcium sulphate and ferric hydrate. The former may then act beneficially as a "holder" of ammonia, and enhance the activity of the soil. But since the soot contains ammonia salts (chiefly sulphate), it would seem that the colouring may be most probably traced to this ingredient, rather than the iron or lime. It was suggested that experiments should be tried by using nitrate of ammonia, in the proportion of 1 oz. to a gallon of water.

Rose Sporting.—Mr. J. Hall of Cheltenham wrote to say that "in the summer of 1890 a Rose grown on Dartmoor from a slip of a tree in Torquay bloomed, and on comparing the two the one from Dartmoor was a deep red orange, the one in Torquay a pale lemon yellow. The soil in Torquay is the red sandstone; Dartmoor is decomposed granite with some peat." Mr. Wilks observed that the Rose (from the above description) might be Mrs. Allen Richardson, which is of a deep apricot colour, but has the habit of sporting to a pale yellow, so that the soil may not have been the cause.

Cyclamens Unhealthy.—Mr. Leek of Bullington House forwarded a plant which does not appear to be attacked with any disease, but had received some check by cold, draught, or other cause. Mr. Douglas observed that he had experienced a similar effect in some of his plants. Mr. Leek also sent a *Primula*, remarkable for an increased viscosity, but it appeared to be perfectly healthy.

Lycaste Skinneri, virescent.—Mr. Sanders forwarded a specimen in which the perianth was green. The cause of virescence is obscure, being permanent on the well-known green Rose.

Dianthus Attacked by Grubs.—With reference to this subject brought before the Committee at the last meeting, Mr. Douglas remarked that he had lost some thousands of plants, and that the only remedy was to pick out the grubs with a needle. Dr. Müller observed that it attacks the very youngest plants when only three or four leaves are present, and especially *D. glacialis*.

Peach Tree Gumming.—Mr. S. T. Wright sent a piece of a trunk badly gummed from Chiswick, saying that it appeared to have some grubs upon it, but none could be seen. It was forwarded to Mr. MacLachlan for further investigation. Mr. Douglas observed that when gumming first appears, trenching all round the roots, with the insertion of fresh loam, checks it at once, but if it has reached an advanced stage, as in the specimen sent, the tree must be removed.

Pinus Coulteri (macrocarpa).—Dr. Masters exhibited some handsome cones and foliage of this tree grown at Lord Ducie's grounds, Tortworth, Gloucestershire. It is also quite hardy in Kent. He observed that it was hardier than *P. insignis*, though it comes from a lower altitude than the former in California. *P. Coulteri* differs from the variety *macrocarpa* in having curved spines.

Orchids Monstrous.—Dr. Von Müller sent specimens, drawings of which were shown by Dr. Masters, of flowers of *Glossodia* and *Caleana*, the former having three lips, while the latter had no lip but a petaloid column, &c.

THE COMMITTEES FOR 1896.

In a recent issue we gave the dates of the meetings of this Society, to be held during the ensuing year. Full particulars of the exhibitions can be had from the Society's publication, known as "Arrangements for 1896," in which are also given lists of the various Committees, and these we reprint for the benefit of our readers.

SCIENTIFIC COMMITTEE.

Chairman.—Sir J. D. Hooker, K.C.S.I., C.B., F.R.S., &c., The Camp, Sunningdale.

Vice-Chairmen.—Dyer, W. T. Thistleton, C.M.G., F.R.S., Royal Gardens, Kew; Foster, Professor M., Sec. R.S., Great Shelford, Cambridge; Masters, Maxwell T., M.D., F.R.S., &c., Mount Avenue, Ealing, W.

Hon. Secretary.—Rev. Prof. G. Henslow, M.A., F.L.S., Drayton House, Ealing, W.

Allen, J., Park House, Shepton Mallet.

Baker, J. G., F.R.S., Royal Gardens, Kew.

Balfour, Prof. I. B., F.R.S., Botanic Gardens, Edinburgh.

Bonavia, Dr. E., 5, Harrington Mansions, South Kensington.

Burbidge, F. W., M.A., F.L.S., Trinity College Gardens, Dublin.

Church, Professor A. H., M.A., F.R.S., Shelsley, Kew Gardens.

Clarke, Colonel R. Trevor, Welton Place, Daventry.

Darwin, Francis, F.R.S., Wychfield, Huntingdon Road, Cambridge.

Dod, Rev. C. Wolley, Edge Hall, Malpas, Cheshire.

Elwes, H. J., F.L.S., F.Z.S., Colesborne, Andoversford, Glos.

Engleheart, Rev. G. H., M.A., Appleshaw, Andover.

Farmer, Prof. J. B., M.A., Royal College of Science, South Kensington.

Frankland, E., F.R.S., The Yews, Reigate Hill, Reigate.

Godman, F. DuCane, F.R.S., 10, Chandos Street, Cavendish Square.

Lindsay, R., Botanic Gardens, Edinburgh.

Llewelyn, Sir J. T. D., Bart., F.L.S., Penllergare, Swansea.

Lynch, R. Irwin, A.L.S., Botanic Gardens, Cambridge.

Maxwell, W. H., Munches, Dalbeattie, N.B.

McLachlan, R., F.R.S., Westview, Clarendon Road, Lewisham, S.E.

Michael, A. D., F.L.S., Cadogan Mansions, Sloane Square, S.W.

Morris, D., C.M.G., M.A., F.L.S., D.Sc., 12, Cumberland Road, Kew.

Müller, Hugo, Ph.D., F.R.S., 13, Park Square East, Regent's Park.

Oliver, F. W., D.Sc., F.L.S., 10, Kew Gardens Road, Kew.

Plowright, C. B., F.L.S., 7, King Street, King's Lynn.

Russell, W. J., F.R.S., Ph.D., 34, Upper Hamilton Terrace, N.W.
 Salvin, Osbert, F.R.S., Hawksfold, Fernhurst, Haslemere.
 Scott, D. H., M.A., Ph.D., F.R.S., F.L.S., The Old Palace, Richmond, S.W.
 Sutton, A. W., F.L.S., Reading.
 Veitch, H. J., F.L.S., King's Road, Chelsea, S.W.
 Ward, Prof. Marshall, F.R.S., The Laurels, Englefield Green, Staines.
 Wilson, Geo. F., F.R.S., Heatherbank, Weybridge Heath.

FRUIT AND VEGETABLE COMMITTEE.

Chairman.—Crowley, Philip, F.L.S., Waddon House, Croydon.
Vice-Chairmen.—Hogg, Dr., LL.D., F.L.S., 99, St. George's Road, S.W.; Rivers, T. Francis, Sawbridgeworth.
 Balderson, H., Corner Hall, Hemel Hempstead.
 Barron, A. F., Sutton Court Road, Chiswick, W.
 Bates, W., Poulett Lodge Gardens, Twickenham.
 Bennett, W., Rangemore Park Gardens, Burton-on-Trent.
 Cheal, Joseph, Crawley, Sussex.
 Crasp, T. H., Osberton Hall Gardens, Worksop.
 Crump, W., Madresfield Court Gardens, Malvern.
 Cummins, G. W., The Grange Gardens, Wallington.
 Dean, A., 62, Richmond Road, Kingston, S.W.
 Divers, W. H., Belvoir Castle Gardens, Grantham.
 Dunn, Malcolm, The Palace Gardens, Dalkeith, N.B.
 Farr, W., Spring Grove House Gardens, Isleworth.
 Fife, Robert, Dobbie's Nurseries, Orpington, Kent.
 Glen, T., Worth Park Gardens, Crawley.
 Goldsmith, Geo., Leonardslee Gardens, Horsham.
 Herrin, C., Dropmore Gardens, Maidenhead.
 Iggulden, W., North View, Frome, Somerset.
 Laing, J., junr., Forest Hill, S.E.
 Lane, Fred Q., Berkhamsted.
 McIndoe, James, Hutton Hall Gardens, Guisborough.
 Miles, G. T., Wycombe Abbey, High Wycombe.
 Norman, G., Hatfield House Gardens, Hatfield.
 Pearson, A. H., The Nurseries, Chilwell, Notts.
 Pope, W., Highclere Gardens, Newbury.
 Reynolds, G., The Gardens, Gunnersbury Park, Acton.
 Ross, Charles, The Gardens, Welford Park, Newbury.
 Sage, G. H., Ham House Gardens, Richmond, S.W.
 Saltmarsh, T. J., The Nurseries, Chelmsford.
 Smith, James, The Gardens, Mentmore, Leighton Buzzard.
 Veitch, J. H., King's Road, Chelsea.
 Veitch, P. C. M., The Royal Nurseries, Exeter.
 Ward, H. W., Longford Castle Gardens, Salisbury.
 Willard, Jesse, Holly Lodge Gardens, Highgate, N.
 Woodward, G., Barham Court, Teston, Maidstone.
 Wright, John, 171, Fleet Street.
 Wythes, G., Syon House Gardens, Brentford.

FLORAL COMMITTEE.

Chairman.—Marshall, William, Auchinraith, Bexley.
Vice-Chairmen.—D'Ombain, Rev. H. H., Westwell Vicarage, Ashford, Kent; Fraser, John, The Nurseries, South Woodford; Paul, George, The Old Nurseries, Cheshunt.
Secretary.—T. Humphreys, R.H.S. Gardens, Chiswick, W.
 Bain, W., The Gardens, Burford Lodge, Dorking.
 Barr, W., 12, King Street, Covent Garden, W.C.
 Beckett, E., Aldenham House Gardens, Elstree.
 Blick, Chas., The Warren, Hayes Common, Beckenham.
 Briscoe-Ironside, Henry, Cedar Lodge, Burgess Hill, Sussex.
 Cannell, H., Swanley, Kent.
 Dean, R., Ranelagh Road, Ealing, W.
 Drury, C. T., F.L.S., 25, Windsor Road, Forest Gate.
 Fitt, J. H., The Frythe Gardens, Welwyn.
 Fraser, John, Willow Cottages, Kew.
 Gordon, G., Endsleigh, Priory Park, Kew.
 Herbst, H., Kew Road, Richmond, Surrey.
 Hogg, R. M., 99, St. George's Road, Pimlico, S.W.
 Hudson, J., Gunnersbury House, Acton.
 Jeffries, C., Boston House Gardens, Brentford.
 Jennings, J., Ascott Gardens, Leighton Buzzard.
 Jones, H. J., Ryecroft Nursery, Hither Green, Lewisham.
 Laing, J., Forest Hill, S.E.
 Lowe, R. B., Ashridge Gardens, Berkhamsted.
 McLeod, J., Dover House Gardens, Roehampton.
 May, H. B., Dyson's Lane, Upper Edmonton.
 Mawley, E., Rosebank, Berkhamsted.
 Molyneux, E., Swanmore Park Gardens, Bishop's Waltham.
 Nicholson, G., Royal Gardens, Kew.
 Noble, C., Sunningdale Nursery, Bagshot.
 Owen R., Castle Hill, Maidenhead.
 Pawle, J. D., 12, Stanley Gardens, Willesden Green, N.W.
 Pearson, C. E., Chilwell, Nottingham.
 Perry, Amos, Hardy Plant Farm, Winchmore Hill, N.
 Salter, C. J., Woodhatch Gardens, Reigate.
 Selfe-Leonard, H., Hitherbury, Guildford.
 Stevens, Geo., St. John's Nursery, Putney.
 Thomas, Owen, Royal Gardens, Windsor.
 Turner, H., Royal Nurseries, Slough.
 Walker, J., Ham Common, Surrey.
 Watson, W., Royal Gardens, Kew.

ORCHID COMMITTEE.

Chairman.—Veitch, H. J., F.L.S., Royal Exotic Nursery, Chelsea, S.W.
Vice-Chairmen.—Lawrence, Sir Trevor, Bart., M.P., 57, Princes Gate, S.W.; Masters, Maxwell T., M.D., F.R.S., Mount Avenue, Ealing W.; Schröder, Baron, The Dell, Staines.
Hon. Secretary.—O'Brien, James, West Street, Harrow-on-the-Hill.
 Ashworth, E., Harefield Hall, Wilmslow, Cheshire.
 Ballantine, H., The Dell Gardens, Staines.
 Bogaerde, A. V., The Woodlands, Great Barr, Birmingham.
 Bond, T. W., Elstead House Gardens, Godalming.
 Brooman-White, R., Ardarroch, Garelochhead, N.B.
 Broome, Joseph, Sunny Hill, Llandudno.
 Burberry, H. A., Highbury Gardens, Birmingham.
 Chapman, H., Cambridge Lodge, Flodden Road, Camberwell.
 Cobb, W., Broadwater Down, Tunbridge Wells.
 Cookson, Norman C., Oakwood, Wylam-on-Tyne.
 Crawshaw, De Barri, Rosefield, Sevenoaks.
 Fowler, J. Gurney, Glebeland, Woodford.
 Gabriel, J. T., 32, Palace Road, Streatham Hill.
 Handley, Rev. E., 19, Royal Crescent, Bath.
 Hardy, Fred, Tyntesfield, Ashton-on-Mersey.
 Hill, E., Tring Park Gardens, Tring.
 Ingram, C., 86, Onslow Gardens, S.W.
 Jacob, R. B., Ewell House, Ewell.
 Jaques, J., Waddesdon Manor Gardens, Aylesbury.
 Latham, W. B., Botanic Gardens, Edgbaston, Birmingham.
 Lindsay, R., Botanic Gardens, Edinburgh.
 Low, E. V., The Nurseries, Clapton, N.E.
 Lucas, C. J., Warnham Court, Horsham.
 Mason, Major, The Firs, Warwick.
 Peed, Thomas, Roupell Park Nurseries, West Norwood.
 Pilcher, Charles, 84, Ringford Road, Wandsworth, S.W.
 Pollett, H. M., Fernside, Bickley, Kent.
 Protheroe, W. H., 67, Cheapside, E.C.
 Sander, F., St. Albans.
 Smee, A. H., Wallington, Surrey.
 Thompson, W., Walton Grange, Stone, Staffs.
 Tod, D., Eastwood Park, Thornliebank, N.B.
 Wells, M., Broomfield, Sale, near Manchester.
 White, W. H., Burford Lodge Gardens, Dorking.
 Williams, H., Victoria Nurseries, Holloway, N.
 Winn, C., The Uplands, Selly Hill, near Birmingham.

NARCISSUS COMMITTEE.

Chairman.—Professor M. Foster, Sec. R.S., Shelford, Cambridge.
Vice-Chairmen.—Baker, J. G., F.R.S., Royal Herbarium, Kew; Dod, Rev. C. Wolley, Edge Hall, Malpas, Cheshire; Engleheart, Rev. George H., Appleshaw, Andover; Wilks, Rev. W., Shirley Vicarage, Croydon.
Hon. Secretary.—Scrase-Dickins, C. R., Coolhurst Park, Horsham.
 Barr, P., 12, King Street, Covent Garden, W.C.
 Bennett-Poë, John T., 29, Ashley Place, S.W.
 Bourne, Rev. S.E., Dunston Vicarage, Lincoln.
 Burbidge, F. W., M.A., Trinity College Gardens, Dublin.
 Cammell, G., Brookfield, Hathersage, near Sheffield.
 Cammell, M., Loxwood House, Billingshurst, Sussex.
 Cowan, C. W., Valleyfield, Penicuik, Midlothian.
 De Graaff, S. A., Leyden, Holland.
 Goldring, W., 52, Gloucester Road, Kew.
 Jenkins, E. H., Queen's Road, Hampton Hill, S.W.
 Kingsmill, A., Esq., The Holt, Harrow Weald, Stanmore.
 Krelage, J. H., Haarlem, Holland.
 Leichtlin, Max, Baden-Baden.
 MacMichael, Rev. C., Walpole Rectory, Wisbech.
 Marsh, Rev. T. H., Causton Rectory, Norfolk.
 Milne Readhead, R., Holden Clough, Bolton-by-Bowland, Clitheroe.
 Moore, F. W., Royal Botanic Gardens, Glasnevin, Dublin.
 Perry, Amos I., Hardy Plant Farm, Winchmore Hill, N.
 Vilmorin, Henry L. De, Quai de la Mégisserie, Paris.
 Walker, James, Ham Common, Surrey.
 Ware, Walter T., Inglescombe Nurseries, near Bath.
 Willmott, Miss, Warley Place, Great Warley, Essex.

EXHAUSTED VINES.

YOUR correspondent "H." (page 60) seems to have a tough task in his hands judging by the facts detailed. As he asks for advice I venture to suggest to him the methods I think would be suitable in such a case. The Vines under consideration seem in such a poor plight, that it would possibly take a great deal more time to pull them round to a satisfactory state than it would to pull them out and plant young Vines, which if properly handled would give better results in less time. The Grapes at present being so poor the loss of the crops for some years would be of little consequence.

If, however, on the whole the Vines show anything like vigour, the border would be best renewed, if the soil is poor, lifting the roots to within 3 or 4 feet of the stems of the Vines, supposing the border is all outside. If the roots are healthy but straggling relay them horizontally in a width of 3 feet or so, notching the strongest. But would not this have been better done early last autumn? Vines here in fairly good vigour have been treated similarly in the month of August, with a portion of the Grapes hanging on them. They had not been disturbed for twenty

years, the borders being all inside, and they have wonderfully improved. I have never found surface dressings of manures of any material assistance in the case of Vines radically wrong. Relaying the roots in fresh compost I have always found to give the best results, encouraging as much growth as possible for a season or two without crowding. The Vines your correspondent refers to indicate a very feeble root action by the growth they make and the sample of the Grapes. The facts of the case suggest an entire clearance if circumstances allow of it being done. He is in the best position to judge which course to pursue, and to decide which of the two methods would give the most satisfactory return if he thinks fit to adopt them.—J. J. CRAVEN, *Allerton Priory Gardens, Liverpool.*

DESTROYING INSECT EGGS ON FRUIT TREES.

WOULD you kindly examine the enclosed twigs of Apple trees and give me your opinion, through the medium of the Journal, as to what is best to be done with my trees? You will find multitudes of the eggs of some insect. The twigs are from young healthy trees that I planted about five years since, and in the spring of each year they have been badly attacked with the grub of the winter moth. Last year I cut some twigs off and dipped them in neat petroleum, placed them in a jar of water in a warm house, and as soon as the buds began to expand the caterpillars emerged and quite stripped the trees of leaves. I also syringed the trees with a strong solution of petroleum and softsoap, and although it killed a great number of the larvæ in a young state, there were plenty left to eat all the leaves of the first growth.

Can anything be done to destroy the eggs now? Would the caustic soda wash destroy them? I may say that I smeared all the stems and lower branches with a sticky substance called smearoleum that I obtained from a Liverpool firm. This was done about the first week in November—too late, you will say—but I did not know of the liquid sooner. I have never seen any of the female moths on the trees since, except those caught with the smearoleum near the ground line; I had seen a few before that time. The smearoleum has destroyed a great number of the moths; I have seen five and six stuck fast to one tree in a night.

I have an idea that the eggs are too numerous to be of the winter moth; besides, I remember once catching a female moth, and put it into a box with some shoots of Privet. It deposited a number of eggs on the Privet, but they were longer and not so yellow as the eggs on the twigs enclosed. I have never used Paris green as I have bees in the garden. If you can give me any advice on the matter I shall esteem it a great favour.—J. F.

[The eggs on the twigs of the Apple tree deposited just below the buds, a protecting knoll on the bark being taken advantage of to shelter them in the hollow or crevice, are those of the winter moth (*Cheimatobia brumata*), which have been laid some little time, as they have parted with their original greenish tinge and become yellowish, and when that occurs the nucleus is distinctly visible (as a bright sparkling object on the dark ground) under the microscope. Some of the eggs may be those of the mottled umber moth (*Hybernia defoliaria*), which so closely resemble the others as to be practically undistinguishable from them. The oval eggs of both species are more or less irregular in outline, scarcely two being alike.

The trial of petroleum is interesting, and goes to show the tenacity of life of the winter moth in the egg as well as in the larval state. Without entering on the merits of petroleum as an egg destroyer, which we have tried with other things on most species of insects and their eggs, we may say that the simplest and cheapest agent proved the best—namely, hot water, after that caustic substances. No egg, so far as we know, can bear a sudden transition of heat from 40° to 140°, a difference of 100°. It scalds the embryo—the nucleus, and is the oldest of all means for destroying insects and their eggs. Only thoroughly ripened wood, however, will stand water at that temperature; but we have used it at 140° to 160° for killing scale and the eggs beneath on Peach trees. Apple trees have downy young wood, and for that reason may hold the water longer and hotter, but they are certainly not benefited with water so hot as 140°; yet they bear 130° without apparent harm, and that ejected on an egg will mostly compass its destruction by parboiling. When a caustic substance is added to such water the destruction is complete, for what the first (heat) misses the latter will hit, provided the work is done well. We, therefore, advise the caustic soda and potash solution, first noticed by Mr. L. Coates in the *Journal of Horticulture* as successful in California. Of course, it is our very old remedy for the destruction of scale by a winter dressing of potash and soda; but we seem to take little advantage of home prescriptions, hence the more credit to those using the things we despise. We advise you to spray the trees without loss of time, as the "down" is showing on the buds, with a solution made by dissolving a half pound of caustic soda (98 per cent.) in a gallon of water and a half pound of commercial potash in a similar amount, adding the two together and diluting with 4 gallons more, boiling, so as to have it 130° when used. Apply on a fine day, but not when the trees are frozen, and coat them well with the solution in every part, not leaving any untouched, it sufficing if every part be wetted without running. It will kill lichen and moss, hibernating pests of all kinds reached, and most eggs of insects, cleansing the bark from overgrowths and leaving it clear and unsinged. Remember that the solution must only be used as a spray, and at a temperature of 130°. It can be employed for Pear and Plum trees as well as for Apples in a dormant state; but if used for Apricot, Cherry, or Peach trees now dilute to 9 gallons.]



WEATHER IN LONDON.—The exceedingly mild weather has been superseded by frost on the last few nights. On Tuesday morning a thick fog hung over the City, which, however, cleared away in the afternoon, and at the time of going to press on Wednesday the atmosphere is clear and pleasant.

— WEATHER IN THE NORTH.—The weather has been very changeable during the week ending the 21st inst. Frosts of from 3° to 5° have been registered on several mornings, but the days have been generally dull, and the nights gusty and wet. Saturday was fine; Sunday cold and showery; Monday, with 6° frost in the morning, pleasant; Tuesday, with a sharp frost during the night, was dull, and in the afternoon the thermometer stood at 39°.—B. D., *S. Perthshire.*

— WILLIAMS' MEMORIAL MEDALS.—The following official notification reached us on the 16th inst., and consequently could not appear sooner in our columns; it is, however, soon enough for the summer and autumn shows referred to:—"At a meeting of the Williams' Memorial Trustees, held on January 2nd, Dr. Masters in the chair, it was decided to offer two memorial medals at the Grand Jubilee Celebration of the National Chrysanthemum Society, at the Royal Aquarium, Westminster; one memorial medal at the exhibition of the Cardiff Horticultural Society; two memorial medals to the Royal Horticultural Society, to be competed for at the Temple show and at the grand fruit show, to be held at the Crystal Palace in the autumn."

— SCOTTISH HORTICULTURAL ASSOCIATION.—The annual general meeting of the Association was held on Tuesday, 14th inst., at 5, St. Andrew's Square, Edinburgh, Mr. R. W. E. Murray, President, in the chair. The Secretary, Mr. Robert Laird, submitted the nineteenth annual report to a full attendance of members, and stated that it was a matter of congratulation that the interest in the Association was well maintained, the membership roll numbering about 500. The Treasurer, Mr. Alex. Mackenzie, also submitted his report, showing that the Association was financially in a thoroughly sound condition. The Duke of Buccleuch was re-elected Honorary President, and Mr. R. E. Murray as President; Mr. Robert Laird, Secretary, and Mr. Alex. Mackenzie, Treasurer. The following gentlemen were added to the Council:—Messrs. D. P. Laird, Jas. Grieve, Wm. McKinnon, John Methven, George Wood, Charles Comfort, and Geo. Broadfoot.

— RULES FOR JUDGING.—The results of the labours of the Committee appointed by the Royal Horticultural Society are issued in the form of a code, a copy of which has been sent to us. The decisions arrived at are embodied in about 200 paragraphs, numbered for the convenience of reference, and extend over forty pages. First are promulgated a series of general rules; then there are, under separate headings, "suggestions" to "schedule makers," to "judges," and to "exhibitors" respectively. The leading points of merit, also various defects, of the different kinds of fruits, vegetables, plants, and flowers usually exhibited are pointed out, and standards of merit attached. In some of the more important sections, Roses, hardy flowers, and perhaps especially Chrysanthemums, receiving a full share of attention. Many moot points on which opinions vary (confusion consequently resulting). That difficulties have been encountered is evident, and if not wholly removed have not been shirked. That the code should be deemed perfect is by no means assumed. To expect that, in dealing with exhibiting in its multitudinous aspects, would be to expect the performance of a miracle. The code is issued for guidance, and it cannot fail to be helpful to many. It is issued for criticism of a genuine character—i.e., for eliciting alternatives for rendering the work to the greatest extent useful. As it stands it is the first and fullest of its kind, a work much needed. It should be read with care by secretaries, members of committees, exhibitors—in fact, by all who are interested in horticultural societies, large and small; while non-exhibitors would find matter at once interesting and instructive. The code can be had post free for 1s. 1d. from the Secretary of the Royal Horticultural Society, 117, Victoria Street, Westminster, and we should think that arrangements might be made for the sale of copies at shows of garden produce in various parts of the kingdom.

— **EARLY RED SPIDER ON APPLE TREES.**—A Gravesend correspondent writes:—"As a proof of the mildness of the season, a gardener here has showed me some young Apple trees, upon the stem and branches of which juvenile red spiders were beginning to travel."

— **LEE, BLACKHEATH, AND LEWISHAM HORTICULTURAL SOCIETY.**—We are informed that for the future the above Society shall be known as the "Lee, Blackheath, Lewisham, and West Kent Horticultural Society." The dates fixed for the exhibition in 1896 are Wednesday and Thursday, July 8th and 9th.

— **THE USE OF WEEDS.**—In one of the late bulletins of the Cornell Experiment Station the Russian Thistle is spoken of as one of those weeds whose mission is to educate the farmer and ameliorate the soil. Weeds only prosper on fields which have been mismanaged, and judicious tillage and cropping will keep them down. If the Russian Thistle spreads seriously it will be because our scheme of farming makes room for it by not keeping the land in full use.

— **MR. GEORGE W. VANDERBILT** is establishing, on his estate at Biltmore, in North Carolina, a scientific collection of dried plants in connection with an arboretum and scientifically managed forest. As a nucleus he has recently purchased, as we learn from the "Botanical Gazette," Dr. Chapman's herbarium of Southern American plants, which formed the foundation for his "Flora of the Southern States."—"Nature.")

— **ROYAL BOTANIC SOCIETY.**—The schedule of a Daffodil show, to be held during the month of April, under the auspices of this Society, is to hand. The classes number twenty-one in all, of which two are reserved for paintings, the remainder being devoted to cut flowers and to plants in pots. The chief class is for a collection of Daffodils staged in three groups—Magni-Coronati, Medii-Coronati, and Parvi-Coronati, the first prize being Mr. Peter Barr's handsome silver cup, designed by the well-known artist, Mr. H. G. Moon. The second and third prizes will be medals of the Society. With the exception of this and the classes for paintings, money prizes are given, and are sufficiently good to insure strong competition if the weather prove favourable to the flowers. In connection with the exhibition, a Conference on Daffodils will be held before; some influential gentlemen have promised to read papers. Notice of the exact date will be given as soon as it can be ascertained when the flowers will be at their best. Full particulars may be had from the Secretary, Mr. J. B. Sowerby.

— **ROYAL METEOROLOGICAL SOCIETY.**—The annual meeting of this Society was held on the 15th inst., Mr. R. Inwards, F.R.A.S., President, in the chair. The report of the Council showed that the Society was in a satisfactory condition, thirty-four new Fellows having been elected during the year. Mr. Inwards devoted his presidential address to the subject of "Meteorological Observatories," which he illustrated with numerous lantern slides. After describing some ancient observatories, including the Nilometers, and the Tower of the Winds at Athens, he gave an account of national observatories, of which the Royal Observatory, Greenwich, was taken as a type. High-level observatories were next described, of which that on Mont Blanc was taken as a type. Special reference was also made to the observatory on the Sonnblick, the high-level observatory at Arequipa on the Andes, and that on Ben Nevis. An account was next given of tower observatories, together with some of the results obtained from the Eiffel Tower at Paris. Mr. Inwards, in concluding, said, "One can figure to oneself a tower piercing the air from any of the elevated table lands of this country—Salisbury Plain, the Stray at Harrogate, or the downs between Guildford and Dorking—and from which the most interesting results could not fail to accrue. It is the opinion of M. Vallot, no mean authority, that a high tower is for air-observing purposes equivalent to a mountain station of ten times the altitude; and this is plain when one considers that any mountain must act as an obstacle which thrusts upward the strata of the atmosphere into a form almost like its own, so that some of the effects are very little different from those observed below; while a tower like the Eiffel Tower thrusts itself in the air without obstructing its movements. It is the boast of the Royal Meteorological Society that it is gradually covering the country with a network of private observing stations, and is collecting together for the enlightenment of all future time a mass of accurate knowledge on the subject of the changes in our atmosphere, its varying moods, its beating pulses, its calms and its convulsions, so that when the philosopher is born who is destined to unravel all its mysteries he will have the tools and instruments ready to his hand." Mr. E. Mawley, F.R.H.S., was elected President for the ensuing year.

— **GARDENING APPOINTMENT.**—Mr. George Lee, who during the past three years has been general foreman at Humberstone Hall, Leicester, has been appointed head gardener to Thomas Perkins, Esq., Payne's Park, Hitchin.

— **HORTICULTURAL CLUB.**—The usual monthly dinner and conversazione of the above Club took place on Tuesday evening last at their rooms, Hotel Windsor. The chair was occupied by Mr. Harry J. Veitch, and there was a good attendance of members. A very interesting paper was read by Mr. H. Selfe-Leonard on "The Arrangement and Planting of the Rock Gardens." The paper gave rise to a profitable discussion, in which most of the points touched on by the writer were considered. A cordial vote of thanks was accorded to the author.

— **"THE GARDEN ORACLE."**—Messrs. Collingridge & Sons have sent us a copy of this useful annual. As usual it is varied in its contents. Special articles are given on various subjects, also selections of plants and flowers, lists of societies, tabulated matter of various kinds, and the inevitable calendar. In one table we note an increase of nearly 37,000 acres of Potatoes last year over the area of 1894, and it appears that we import more than 500,000 bushels of Onions a year, which seems very absurd.

— **VINES: FEEDING AND SPORTING.**—A recent number of the Journal contained remarks as to generous feeding, sometimes forcing one variety to come like another in its fruit. Is there such a thing as a Vine sporting? Some years back I was working in a large market nursery near London. In one of the Alicante houses I had charge of was a Vine with four rods or canes. They were 16 feet in length, and carried about 30 lbs. of Grapes each. Half way up one of these canes, or rather from the middle to the top, the growth was of remarkable vigour and quite distinct from the rest of the Vine. The bunches were unlike Alicantes, being short and very broad shouldered, the berries quite round, very large, and ripened a fortnight sooner than any of the others in the house (one of 280 feet). We used to feed very heavily. Would this be the cause of such a decided difference?—P. B.

— **DRILL HALL LECTURES.**—The lectures arranged to be delivered at the Royal Horticultural Society's Drill Hall meetings during the current year are as follows:—"Melons," by Mr. J. Barkham; "Saladings," by Mr. W. Iggulden; "The Movements of Plants," by the Rev. G. Henslow, M.A.; "Pine Apples," by Mr. H. W. Ward; "The Species and Varieties of Cultivated Tulips," by Mr. J. G. Baker, F.R.S.; "The Rights of Plants as Living Creatures," by Mr. Walter Gardiner, F.R.S.; "Gardeners—Past, Present, and Future," by Mr. S. Heaton; "New Roses," by the Rev. H. J. Pemberton; "Cacti," by Mr. E. H. Chapman; "Fern Generation," by Mr. C. T. Drury, F.L.S.; "Forcing Lilies of the Valley," by Mr. T. Jannoch; "Gladioli," by Mr. J. Burrell; "Hardy Summer Flowers," by Mr. E. Burrell; "Chrysanthemums," by Mr. W. H. Lees; and "Seed Growing," by Mr. Robert Fife.

— **THE POTATO CROP OF 1895.**—The United Kingdom and the Continent of Europe generally harvested a large crop of Potatoes in 1895. From statistics derived from the best data obtainable a contemporary finds that out of fourteen different countries thirteen of them show a larger yield of Potatoes than in 1894. Italy is the only exception to the rule, that country yielding about 540,000 bushels of tubers less than in 1894. Germany stands at the head of the list with 1,106,000,000 bushels, grown on 7,525,000 acres; Russia comes second in order with 611,000,000 bushels, from 6,234,000 acres; France ranks third with 443,200,000 bushels, from 3,854,000 acres. The United Kingdom is credited with 192,800,000 bushels, grown on 1,252,000 acres. Although such enormous quantities of Potatoes are produced in Continental countries, yet they, as a rule, consume all they grow at home, and have little to export, except from France and Germany and, to some extent, the Netherlands, which ship their surplus to England. In the United States the crop of Potatoes for 1895 reaches 282,148,000 bushels; this quantity is said not only to be large, but by far the largest ever grown in that country. The acreage, which shows 3,204,000 acres, was suddenly increased out of all proportion to the demands for consumption, in response, it is reported, to ill-advised suggestions from high official sources, coupled with a natural desire on the part of the American farmers to replace Wheat in the north-west with some more paying crop. The result is a crop furnishing a heavy surplus above food requirements; and this surplus, having no adequate outlet at present, has crashed prices to a level below the cost of production in some sections; in fact, in many of the north-west districts growers abandoned the results of their year's work and did not lift their crop, prices not paying the cost of digging and hawling.

— ANNUAL DINNER OF THE KEW STAFF.—The Kew Gardens staff held its annual dinner on Thursday evening, the 16th inst. Mr. W. T. Thistleton Dyer occupied the chair. There was a good attendance and the after-dinner proceedings were enlivened by vocal music from Miss Jackson and the Twickenham Glee Club.

— ORIGIN OF COOPER'S BLACK GRAPE. — Coincidentally with Miss B. Cooper's momentous information (page 57) anent her late father's connection with Trentham Gardens, I may remark that in 1852 I was a contemporary of Mr. Cooper's there, and have no knowledge of the Grape in question having been grown there up to that date, nor subsequently; and I still have a fair recollection of the varieties cultivated by the late Mr. George Fleming, though not actually under my charge. I now fear that further information as to the origin of "Cooper's Grape" is very remote—a matter to be deplored.—WILLIAM GARDINER, *Birmingham*.

— SIERRA LEONE BOTANIC GARDENS. — Mr. Frederick Enos Willey, in the employ of the Royal Gardens, has been appointed by the Secretary of State for the Colonies Curator of the newly founded Botanic Station at Sierra Leone. Mr. Willey entered the Royal Gardens in June, 1892. He was lent from Kew to act as Curator of the Botanic Station at Aburi, Gold Coast, during the absence in 1893-4, of the late Mr. Crowther, who was sent by his Government to inspect the principal Botanic Gardens in the West Indies. Mr. Willey managed the station to the satisfaction of the Government of the Gold Coast, and is therefore prepared by previous experience in West Africa for the duties of his new post.—("Kew Bulletin.")

— WOOLTON GARDENERS' MUTUAL IMPROVEMENT SOCIETY.—The annual meeting was held on the 16th inst. in the Mechanics' Institute, Mr. R. Todd presiding. Mr. Waterman, the Treasurer, presented the accounts as follows:—Receipts, £9 6s. 10d., including a balance of £2 9s. 2d.; expenditure, £1 15s. 7d., leaving a balance of £7 11s. 3d. The library continues most useful, and the Committee heartily thanked Mr. Ker for the book on "Orchids" which he kindly presented to the Society. The prizes offered by the Society for essays on "The Cultivation of the Strawberry, Suitable for the District," was won by Mr. W. Disley, Allerton Priory Gardens, Mr. G. H. Webster being second. Holbrook Gaskell, Esq., was elected President; Mr. Waterman, Treasurer; and Mr. G. H. Webster, Secretary of the Society for the present year.

— WAKEFIELD PAXTON SOCIETY.—The weekly lecture to the members of this Society, on 11th inst., was delivered by Mr. J. Thomas, gardener to the Bishop of Wakefield, at Bishopgarth. Mr. B. Whiteley presided, and Mr. L. Dobinson, of Stanley, occupied the vice-chair. Mr. Thomas, who has on several occasions lectured to his fellow Paxtonians on a variety of horticultural topics, selected for his subject last Saturday "Watering," and on this question, which is one of the greatest importance to all growers of plants, both indoors and out he read a carefully prepared, very interesting, and thoroughly practical paper, which provoked a long, most instructive, and entertaining discussion. "When shall I water my plants?" was, said Mr. Thomas, a question which was frequently asked, and it related to a matter that required the exercise of much observation and tact, because some plants require more water than others. At the same time there was some general information which might be given, and he proceeded to deal with (1) the importance of watering; (2) indoor watering; (3) outdoor watering; (4) watering newly potted or transplanted plants; (5) the best water to use; and (6) the best time for watering. Dealing with his half dozen points seriatim, Mr. Thomas gave some valuable hints on each, and as his information was based on long experience and practice, it was of a reliable character. The essayist expressed it as his opinion that watering is of more importance than any other operation in connection with the growth of plants, because if they did not receive the water they required their existence was short. Plants in living rooms were often benefited by being immersed for about ten minutes in water of the same temperature as the room in which they were kept. They should never give water before it was needed, and on the other hand they should never allow plants to get too dry. In watering out-of-door plants they should do it thoroughly, giving a good drenching instead of a mere surface sprinkling. Rain water was the best for the purpose, and it was advisable to take it from tubs or tanks in which it was of a higher temperature than when drawn from a tap or supplied through a hose pipe. In summer the evening was the best time for watering, and in the morning in winter. A vote of thanks was accorded to this excellent paper.

— A PROTRACTED LAW SUIT.—A Bavarian forest, consisting of Oak and Beech trees, has been the subject of a law case lasting 300 years. According to a contemporary, the market community of Burginn, at Unterfranken, commenced the case on June 21st, 1595, having been legally advised to appear against the Lords of Thüngen for a sum of 2,000,000 marks as owners of the forest. As fast as death has thinned the ranks of the disputants others have filled the gaps, so that the case when up for trial recently appeared as fresh as ever. There is, however, a hope that June 21st will see the end of the dispute.

— LAST YEAR'S RAINFALL AT COTTENHAM, CAMBS. — The rainfall during the past year shows some striking divergencies, the heaviest fall for one month being 3.88 inches, and the lowest 0.28. The amount that fell in the various months were as follows:—January, 1.80 inch; February, 0.28 of an inch; March, 1.29 inch; April, 0.93 of an inch; May, 1.56 inch; June, 1 inch; July, 3.18 inches; August, 3.88 inches; September, 0.52 of an inch; October, 2.16 inches; November, 2.79 inches; and December, 1.72 inch. The total for the year amounted to 21.11 inches. — ARTHUR BULL, *Bernard House, Cottenham, Cambs.*

— DISTRIBUTION OF KEW SEEDS.—The publication annually of a list of seeds ripened at Kew, and available for exchange, has resulted in a considerable increase in the number of packets of seeds distributed. They are applied for from both public and private gardens in all parts of the world. The seeds, says the "Kew Bulletin," are for the most part of select plants. Last year (1894) nearly 6000 packets were supplied to correspondents whose desiderata had been selected from the printed list. In addition to this number nearly 1000 packets of seeds received from Botanic Gardens in India and the Colonies were distributed from Kew. The total number of packets of seeds distributed annually from Kew previous to the issue of a printed list in 1885 was about 2000 per annum.

— THE VEGETABLE RESOURCES OF NEW CALEDONIA.—Consequent on the rocky nature of the soil and the difficulty of cultivating it these are comparatively few. There are about 2000 indigenous plants, though but few are useful; the trees are dwarf and stunted. Nearly all the useful vegetables are imported from Europe. New Caledonia and the Loyalty Islands have an area of 4,940,000 acres, and of this some 2,470,000 are under cultivation. Manioc, Yams, and Beans occupy 988,000 acres; Vines, Olive, Mulberry, and Coffee trees cover 617,500 acres, and 296,400 acres is forest land; another 111,150 acres are occupied by smaller crops suitable for the islands. Coffee has been successfully grown, but Cotton, Sugarcane, and Tobacco have not as yet been very remunerative. Efforts are being made to improve the culture of Cocoa-nut, and to acclimatise Bananas and Pine Apples.

— SHIRLEY (SOUTHAMPTON) GARDENERS' AND AMATEURS' IMPROVEMENT ASSOCIATION.—The monthly meeting was held at the Parish Rooms, Shirley, Southampton, on the 20th inst., Mr. W. Devonport presiding. A popular lecture, entitled "Fruit as Food," was given by Mr. R. E. O'Callaghan of the Vegetarian Union, London. There was a large attendance. The lecturer, among other things, advocated the dissemination amongst cottagers, of some method of drying certain fruits in seasons of plenty, instead of permitting large quantities to be wasted, or sold at prices which left no margin of profit, as occurred during the past season. He referred particularly to the Plum, which he said was dried in great quantities by the French and German cottagers and small holders, and annually imported. A hearty vote of thanks was accorded the lecturer at the close. [A great deal of nonsense is preached and written about drying English Plums that are not worth sending to market.]

— ASPLENIUM NIDUS.—If a list were to be made of plants possessing handsome and conspicuous foliage the above noble Fern would occupy a prominent position. Its large undivided fronds are, says a contemporary, almost as imposing as the leaves of the Musas, and the plant, being much dwarfer in stature, may be grown where room for the latter cannot be found. The fronds run from 2 feet to 4 feet in length, and from 5 inches to 8 inches in width, tapering up to a more or less acute apex. They are borne on a stout stem raised a very little way from the surface of the soil, and are deep shining green in colour. The plant may be grown in a cool house with a night temperature during winter of about 45° Fahr., although a rather higher temperature than this during the winter months appears to suit it better. Plenty of water is an absolute necessity at all times, and during the summer months occasional doses of liquid cow manure will be of great service.

FLOWER SHOWS.

THANKS to the assistance of "Argus" (page 28), I was flattering myself that there would be no necessity of my replying to the criticism "Vespa" vouchsafed to pass (page 596) on my communication on the above subject. As a matter of fact, I did not take "Vespa" seriously, but I see by the note on page 59 that he really expects a reply. "Vespa" wonders if it is for the "horrid bawbees." No, "Vespa," it is not for the "bawbees" (which you yourself hint at as not being over-pleasantly earned by gardeners when prize money has to be devoted to the purchase of Sandy's shoon) that I remain a gardener, for I had the chance many years ago of entering the ranks of another craft in which the bawbees were more easily and plentifully earned. But I had, and have, a love for my calling, and that is why I remain in it, and although the bawbees must accompany it (for it is impossible to live on love alone), yet were it not for that love of horticulture I should not be a gardener to-day. Had I the chance of going over my life again the same honourable association and love of my present calling would make me adopt it again. I could understand "Vespa" asking why I did not give up showing, but why he thinks I should give up gardening simply because malpractices go on at flower shows I cannot understand. Surely he does not think that exhibitions of fruit, flowers, and plants represent what gardening is any more than exhibitors, and especially dishonest ones, represent what gardeners are? If we are to follow "Vespa's" argument to its logical conclusion we shall be perfectly justified in believing that our own country is past redemption, simply because in every town in the whole kingdom a police court is held in which from year's end to year's end one continual story of crime is heard.

I was quite aware, as already intimated, that the love of money among exhibitors ran the love of honour in many instances very closely, but if Mr. Raillem's former assistant is a type of the average exhibitor of to-day, I am afraid he has reached a stage that even I had not dreamt of. "Barren" honour, as Mr. Raillem terms it, has done much in the way of furthering gardening as other scientific and social causes, and notwithstanding the mercenary spirit of the present time it is destined to do still greater service in the future. Mr. Raillem has seemingly been as fortunate as I have been unfortunate in his experiences of flower shows, or he would have otherwise seen more than one solitary instance of swindling during his long experience as an exhibitor, and would not perhaps have thought my communication so uncalled for.

Had I felt any doubts as to the utility of bringing the questionable practices at flower shows to the notice of your readers they would have been swiftly swept aside, as I am pleased to note that it has, at least, been the means of letting British gardeners know that they have one clear-headed genius amongst them—signing himself "An English Gardener." My thankfulness at having been saved from demoralising my fellow craftsmen the world over is only equalled by my admiration for the wonderful perspicacity displayed by "An English Gardener," who has so timely appeared on the scene to prevent the dire calamity which would have resulted from the acceptance of the principles contained in—what he terms—my "by no means weighty effusion." My kindly critic affects to treat my main points with disdain, but he was really not able to do so, and I join with him in saying, "Truly we live in wondrous times."

I am asked to give examples of dodging, or something worse, on the part of exhibitors. I will do so to the Editor, though I do not suppose he will publish them, and if he did it might be said they are of no use without names. I wish to be credited with a higher motive than any petty exposure of names. It is a question of principles not persons that impelled me to write, and I expressed my belief that our exhibitions would be purified by the removal of money prizes, and that certificates would cause as much emulation. This has been derisively laughed at by my opponents. Still, it has been stated in this Journal since this controversy started that the National Society of Amateur Gardeners, which is doing excellent work, has as its emulative power only certificates and other honours, no money prizes being given by this Society, thus showing that my proposition is not such a glaring absurdity as some would have us believe, for here it is already an actuality.

The incongruous character of horticultural exhibitions offends many persons besides myself. I have been very pleased to see that during the last few weeks even some of our ablest men have been calling attention to it. The Royal Botanic, among other societies, has been severely criticised for its undignified exhibitions, resulting from the desire to draw the reluctant British public. I have been at the National Chrysanthemum Society's show in the Aquarium when it was almost impossible to enjoy a good sight of the exhibits for the performances of gymnasts, clowns, and performing elephants. How anyone can assert, as one of your correspondents did last week, that flower shows were never in a more flourishing condition than at the present time, when such "adjuncts" have to be introduced to make them a financial success, I cannot understand.

I must now bring this much-too-lengthy reply to a close, and will do so by once more expressing my opinion, that unless flower shows become the centres of only the most honourable competition, and not the happy hunting grounds of the avaricious, they must sooner or later be institutions of the past.—SCOTTISH GARDENER.

[It is right to add that the so-called "adjuncts" which our correspondent last objects to are not provided by the National Chrysanthemum Society, which we have no doubt would much prefer to have the whole

Aquarium space for the exhibits. Nor is the great attendance at the shows drawn by the regular performances (which can be seen at any time), but by the plants and blooms; and, moreover, many persons are convinced that visitors to the shows would be still more numerous if the entire building were given up to them alone.

The "examples" supplied by our earnest contributor, and able gardener, of malpractices are the petty acts of petty men, or of a few pot-hunters—the exceptions which prove the rule that in overwhelming numbers educated and well trained British gardeners compare for probity and rectitude with any other class of men in the community. "Scottish Gardener" seems to emphasise this with great force in his reply to "Vespa," in which, however, he contrives to reach the "Police Court."

In connection with this there is, as he says, a "continued story of crime." Crime will no doubt exist as long as weeds grow; but one of the most encouraging facts of the times is its steady and continuous reduction, notwithstanding the great increase of population, as is revealed by Government statistics—the result of better educational methods and wholesome training.

Analogically we have to say, not as a mere opinion, but as a stern fact, that notwithstanding the enormous increase in flower shows, also the number and value of prizes, that we do not receive half, nor one quarter, the number of complaints of dishonest exhibiting that poured in some years ago, when prizes were much fewer and lower; and we suspect that the greater the number of exhibitors, and the closer the competition, the less chance will an occasional delinquent have of escaping detection, and the greater the certainty of his being scouted for attempts to deceive. We admire the spirit and the objects of our correspondent, and his words, with others he has elicited, will, it is hoped, influence for good some weak member of the craft—some weed that pushes up in the garden of exhibitors.

In one point his innocence misleads him. He thinks "honours" are not bought. We have an impression that he is greatly deceived. As he has given a few instances of the way in which some money prizes have been won we will give him one instance in return, though we could give many. A person coveted a certain medal, and he told us he intended having it, if it cost him £100. As a fact he spent much more in the attempt. This is not a solitary instance, and we suspect more curious ways have been resorted to for obtaining so-called "barren honours" than for securing money prizes in competition.]

CYPERUS.

THESE easily grown plants, which thrive well in either a greenhouse, intermediate or stove temperature, ought to be largely cultivated in all gardens where the demand for decorative material is extensive. This is especially true of that fine old species, *alternifolius*. It is one of those plants of which decorators seem never to have too many. This is doubtless because the grass-like leaves borne on long slender stems are peculiarly adapted for arranging with cut flowers, while well-grown plants in pots are equally suitable for use in that state.

When used in either of these ways their lasting qualities are good, and to all arrangements they impart a characteristic appearance. Were it not for the fact that for the sake of novelty it is necessary to vary the kind of greenery mixed with cut flowers, I should seldom think any arrangement complete without a few whorls of *Cyperus* rising above the flowers. Of course it is necessary to have whorls of varying sizes according to the receptacle in which the flowers are placed, and in catering for this demand the accommodating nature of the plant is clearly demonstrated.

To provide a constant supply of small stems such as only young plants produce, numbers of tops should be inserted in sand at regular intervals, the present time being very suitable to commence with the first batch for this season. The operation is simple enough. I usually cut the medium-sized tops with half an inch of stem attached, and insert them in sand placed in pans or a propagating case. Good bottom and top heat is necessary, and the sand should be kept constantly moist. In the course of two or three weeks young shoots will begin to push from the centre of the whorls. When these have grown about an inch in length the young plants are ready for transferring to 3-inch pots, using light soil, loam and leaf soil or peat in equal parts answering well. When these young shoots have grown to maturity they are ready for cutting.

By the time the first crop of shoots have reached this stage others will be found springing from the base. It is therefore a good plan to cut the fully grown ones and shift the plants into larger pots. The succeeding shoots will then be considerably stronger. Old stools shifted into 10-inch pots when well rooted will produce strong noble-looking shoots and tops, especially if they can be stood in a tank or tub where the water rises to the rim of the pots. Shoots of this character are always welcomed for placing in large glasses. *C. a. variegatus* does not grow so strongly and thrives best when given a stove temperature. As a pot plant it is extremely effective for dinner-table decoration, as well as for use in a cut state.

C. laxus is a true greenhouse species, and should be kept in a damp position. Its chief value lies in its usefulness as a pot plant, and to display its peculiar beauty to advantage it ought to be raised well above Ferns and other dwarf foliage plants; in fact, it is *par excellence* a "dot" plant.—PLANTSMAN.



CHRYSANTHEMUM BONNIE DUNDEE.

THOUGH the Chrysanthemum has now passed the meridian for the present season it is by no means too late to call attention to another novelty, as the interest, though not perhaps so apparent as was the case two months ago, has not in reality abated. In fig. 12 we furnish a woodcut engraving from a photograph of what promises to be an excellent incurved, and which is named Bonnie Dundee. Though the flowers exhibited were not large, they were of distinct colour, compactly built, and of splendid form, and doubtless the size will increase materially next season. The depth of the flower, and the perfect incurving of the florets, yellowish bronze in colour, render it well worthy of the award of merit that was given by the Floral Committee of the Royal Horticultural Society, and the first-class certificate adjudged by the National Chrysanthemum Society. Mr. Robert Owen, Maidenhead, was the exhibitor.

THE CHRYSANTHEMUM ALBUM.

THE great business capacities of Mr. H. J. Jones, Ryecroft Nursery, Hither Green, Lewisham, have many times during the past years been manifested and acknowledged by all, and his latest venture adds as much or more than anything to his credit. This is the Chrysanthemum Album, of which a copy has just reached us. It is a work of art in the form of beautiful process blocks of Chrysanthemums printed on splendid surfaced paper. The illustrations, numbering three dozen, chiefly represent seedlings that have been raised at Lewisham, and of which many have not yet been seen on the exhibition board, are given of natural size, the blocks measuring 7½ inches by 9 inches. The frontispiece is a lifelike portrait of Sir Edwin Saunders, to whom the author has dedicated his work. The price (2s. 6d.) cannot be termed other than reasonable when the high quality of the work is considered, and we congratulate Mr. Jones on his introduction of the Album into the Chrysanthemum world.

TRANSFER OF SEEDLINGS.

WE are informed that the whole of the stock of seedling Chrysanthemums belonging to Mr. H. Briscoe Ironside, numbering more than 100 varieties, has passed into the hands of Messrs. J. R. Pearson & Sons, Chilwell, Notts.

EXPERIENCE WITH VARIETIES.

MADAME C. MOLIN.—It was said that this variety had quite displaced the well-known Avalanche, but I cannot think such is the case. It is certainly broader in the floret, perfects a larger bloom, and on this account perhaps is a more suitable flower for the exhibition stage. A large bloom of Avalanche with proportionate depth is, in my opinion, a refined flower that many of the newer and larger varieties cannot surpass. So far, at any rate, I am of the opinion that Madame C. Molin is not equal to it in symmetry and beauty.

W. SEWARD.—This, to my mind, is a grand flower. Its colour is charming, while the shape and lightness of build are all that one can desire. It reminds me very much of my old favourite for cutting, Tokio, to which my friend, Mr. Tunnington, clung for years, and perhaps does so now. It makes a grand bush, and few equal it, if any, for cutting. How does W. Seward do when grown in a natural way? Judging from its dwarf habit and freedom of flowering, I should think it would be very useful. The colour is good, the flowers light, the florets narrow, and I do not doubt it would yield sprays of the lightest description.

J. SHRIMPTON.—This is invaluable on account of its dwarf sturdy nature, good blooms being produced on plants little more than 2 feet high. Three or four blooms on a plant renders it one of the most useful for decoration. At one time I thought Cullingfordi was superseded, but now propose to retain it a little longer. It comes in late, and always yields good blooms. Well-developed flowers are superb, and

under strong light look well when twenty or thirty of them are used together on the dinner table in a suitable way. What with W. Seward, J. Shrimpton, W. G. Childs, and others, I had decided to throw it out after this year, but it has done so well, and even by the side of these new comers stands in high estimation, that at least a dozen plants will be grown another year.

E. MOLYNEUX.—This magnificent variety stands out conspicuously even in a group of the very newest and most improved kinds. The longer it is grown the more it is liked, and the better do the blooms seem to come. At first I was disappointed with it. From strong well-grown plants, and the buds taken about the third week of August, they develop to perfection. Many of the blooms this year have been almost globular in shape, and as deep, or deeper, than they have been broad. Late flowers do not appear to come good. With me, at any rate, it has a tendency to come all one colour, and often only semi-double blooms when the buds are taken in September. It certainly does best if the plant branches in June, and the buds taken from the three growths are allowed to start then. If they come about the time stated good flowers are certain to result, other treatment being satisfactory.

UNDINE—After two years' trial I am somewhat disappointed with this variety. From the timber this year and appearance of the plants splendid examples were looked for, the plants being stronger than those of any other variety grown. It is evidently early, as buds were ready for taking before the close of July, some of them very early in the month. These were sent on "another journey," and they grew very tall, producing rather puny flowers. Those taken about the 30th of July were only fairly good.

COLONEL CHASE.—This came out at the same time as Undine, and is a decided acquisition. Whether the buds were taken early or late splendid blooms have resulted. It is distinct, the florets droop beautifully, and it makes a perfect flower. It is worth a place in any collection, however select. To my mind it stands ahead of many of the varieties of recent introduction. It only wants growing to be appreciated. The petals are very delicate and easily bruised, so that some care in handling is needed. I packed a number of varieties on one occasion, and found this was the most delicate.

SIZE OF BLOOMS.—By-the-by, in measuring blooms, are they measured from tip to tip of the guard florets or only the average width? Taking the guard petals from tip to tip some blooms would measure



FIG. 12.—CHRYSANTHEMUM BONNIE DUNDEE.

more across than many people think. I took the guard petals to-day of only a second sized bloom of Stanstead White, and they measured $3\frac{3}{4}$ inches and on the opposite side $3\frac{1}{2}$ inches, making $7\frac{1}{4}$ inches. Without the guard petals the blooms would not have measured more than $4\frac{1}{2}$ inches, or the size of an ordinary incurved.—W. B.

WINTER FLOWERS.

JUSTICIA FLAVICOMA.

THIS is an old inhabitant of our plant houses, and yet rarely found grown in any quantity. For years its claims have been advocated as a decorative plant, and few when well grown are more effective. I shall not attempt to urge any claims for it for cutting purposes; but if placed in suitable glasses it would make a telling and effective display on the dinner-table. The plumes of pleasing yellow are light in appearance, and contrast admirably with its dark green foliage. It is nevertheless a pity to use it in a cut state when the flowers first develop, in fact we regard it as a waste of material. When the first flowers fail others are quickly produced from the same truss, and are finer. Where an attempt is made to provide flowers for cutting, and also to keep some of the houses attractive, this plant should be grown in fair numbers, because by judicious treatment its first flowers will be in full beauty at Christmas. Nothing can well excel a small warm or intermediate span-roofed house filled with this plant, and rising gracefully from amongst it the light spikes of *Calanthe Veitchii*, a few *Poinsettias*, and *Euphorbias* adding to the effect. The *Justicia* is also accommodating, for it can be used most effectively in the conservatory where a little warmth is maintained.

The cultivation is simple, provided plants are grown annually from seeds or cuttings. The seedlings should be placed in boxes until they are ready for 3-inch pots; they may then be transferred to 5-inch and 6-inch, in which they will flower. If larger bushes are needed three may be placed into each pot. For some time they can be grown under the shade of Cucumbers and Melons, but when established in their flowering pots they should be fully exposed to the sun to thoroughly ripen the wood. When given liberal treatment they branch freely without pinching. When a stock is raised from cuttings, the plants after flowering should be cut well back to induce clean growths from the base. This plant flowers so freely that every little growth at the top terminates with a small truss of flowers, and some time must naturally elapse before good cuttings can be obtained. These root freely when inserted in thumb pots singly and placed in hand-lights in a warm close house. Any fairly good compost will grow the plants well.

When this plant is grown, the old *Linum trigynum* may be dispensed with altogether, or only a few grown for the sake of variety. It is by no means so useful, and takes equally as much room and care in growing. It is a home for red spider, and without great care and attention is certain to be attacked.

CENTROPOGON LUCYANUS.

This useful plant for winter flowering can be increased rapidly. Young shoots after flowering issue from every joint, and these when 3 inches long should be taken with a heel and inserted in very sandy soil. They root best when placed round the edge of the pot and plunged in brisk heat, say 65° to 70° , in the propagating frame or under hand-lights. These plants may be grown on year after year by cutting them close back, reducing the old ball after they start into growth, placing them again in the same size pots. There can be no question that this plant looks best when one or two stems are allowed to grow and arch in a natural manner. Once twisting its slender growths round stakes is attempted the plant loses its effectiveness for decoration. Well-grown specimens when in flower are most attractive in the conservatory. In this position they should be elevated on a pot above other plants, and then they show themselves to advantage. When the terminal truss is over all the branchlets along the stem flower freely, so that they last in good condition over a fair space of time.

DEUTZIA GRACILIS.

This is one of the most useful hardy plants that can be grown. The position, whether in a cut state or as pot plants, need not be referred to, because well-grown and well-flowered specimens are useful everywhere. To have plants in good condition for Christmas they must after flowering be pruned close back and pushed forward into growth in either a vinery or Peach house. Their growth at any rate should be made early under glass, well ripened, and then the plants stood outside until the foliage falls. A good frost will assist those who want plants in flower at Christmas. After being frozen they start into growth at once if placed in the forcing house. Plants with clean growths made from the base are most effective, as they flower profusely from the top to the bottom. One peculiar feature is that plants will bear hard forcing without injury, provided they are well established. It will start and come forward in a temperature of 70° . It should, however, be allowed to open its flowers under cooler conditions if they are to last. It is useless to grow the plants outside, lift, and then try to force them into bloom for Christmas and the new year.

LILY OF THE VALLEY.

How incomplete would any list of winter flowers be without this. Will it always remain so popular? is a question, now that it can be had any time under the freezing process. It was something to boast of a few years ago to have this favourite flower the first days of November. To do this the plants must be grown under glass. For Christmas and

the New Year imported Berlin crowns answer purpose admirably, as there is no difficulty where brisk heat can be maintained in having them in flower then. Where a close propagating frame and brisk bottom heat cannot be maintained the pots can be plunged in a box and stood on the pipes. Keep them moist. Cover the crowns with moss, and they will soon come forward. The crowns start as quickly again after they have been exposed to frost, a practice we have followed for years.—WM. BARDNEY.

(To be continued.)



MR. E. MAWLEY.

THOUGH the name of Mr. E. Mawley is known and respected by the majority of gardeners as an enthusiastic rosarian and co-Secretary of the National Rose Society, he does not direct all his talents in that connection. For many years he has been a welcome member of the Royal Meteorological Society, before whose members he has frequently read papers of much value and interest. Evidently Mr. Mawley is as popular there as amongst the Roses, as at the recently held annual meeting he was appointed President for the year 1896. In tendering our congratulations to this gentleman on the honour he has received, we are sure we only do what all our readers would desire.

ROSES AND THEIR CULTIVATION.

THE Rose as the queen of all flowers and our national emblem has been immortalised from the most ancient times by authors and poets of all countries. It gives employment to thousands in various ways, and the simplicity of its propagation brings it within the reach of all. As a cut flower it has no equal. So easy of cultivation are Roses that no one with a taste for horticulture can possibly fail to bring about good results. Roses will grow anywhere provided the soil is suitable and the situation open. Soil that will grow the best crops of Wheat will grow Roses to perfection. They are well adapted for covering walls, rockeries, pillars and many unsightly places, whilst those who have the convenience can grow them in pots with great success.

PROPAGATION—SEEDLINGS.

Roses may be propagated in many ways—viz, from seeds, cuttings, layers, suckers, budding, grafting, and in some cases by division. The seed must be left on the tree until perfectly ripe, then gathered, dried, and sown either in the open ground or a cold frame. As a rule the seeds germinate and the seedlings get strong enough to be planted out the first autumn. The beds should be protected during the winter with straw to prevent the frost injuring the young plants. The first flowers will not come to perfection, but when the plants are strong enough to produce good flowers it will be the time to decide which are worth keeping.

CUTTINGS.

These may be taken at almost any time, cuttings of Hybrid Perpetuals, Hybrid Teas, Bourbons and Hybrid Bourbons, and some of the hardiest Teas rooting well in the open about the first week in October. Take a shoot of the current year's growth from 9 to 12 inches in length with a heel, choose a warm sheltered position, well prepare the ground, take out a trench 6 inches deep, put an inch of rough red sand in the bottom, place the cuttings on this about 6 inches asunder and the rows a foot apart, making the soil firm about the cuttings, and many of them will be ready to transplant the following autumn. Roses on their own roots are to be relied on, and I myself prefer them to those worked otherwise. Many Tea varieties are tender, and these growing in the open should have their cuttings placed thickly in pots in a cold frame until about March, by which time they will be callused, and will if placed in heat emit roots at once.

Cuttings of Roses growing under glass are easily rooted in late spring if placed in a propagating frame, and will make excellent plants in a few months. When rooted they should be placed singly in small pots, using a sandy loam, and when these are filled with roots they may be placed in 6-inch pots. Keep in a close frame for a few days, gradually hardening to the open air and continually pick off the flower buds. When taken inside in the autumn they will not require to be pruned, nearly all the wood being full of vigour, and should produce a dozen blooms to a plant.

Layering is adopted if plants are required quickly. Select a shoot of firm wood in June, bend it down, cut a slit or a tongue in the part that touches the ground, pegging it down firmly. It should be rooted ready to plant out in the autumn.

BUDDING AND GRAFTING.

These are the chief modes of propagating the Rose. The operations are so simple that anyone may learn them. I know a young lady, the daughter of a nurseryman, who buds 10,000 Roses every year. Many kinds of stocks are used for budding, the chief being the Briar or Dog Rose, which may be obtained from hedges. Or seedlings may be raised, and with these one may bud close to the ground, or run them up 8 or

10 feet. Cuttings of the Briar may also be rooted for budding. The *Manetti*, *Maiden's Blush*, and many other stocks can be used with every likelihood of success.

Grafting may be done under glass during the winter or outside in March, but is not so sure as budding. If a piece of Rose wood is grafted on the roots of any of the different stocks the plants will produce no suckers.

PLANTING.

Having obtained the plants, it is necessary, to grow Roses well, to have rich soil, a deep loam of a stiff nature being most suitable. When beds are required and the soil is good it should be trenched and plenty of decayed manure worked into it. If the loam is of a light nature use cow manure, which will help to stiffen it. After the soil has settled planting may proceed. Bury the stems two or three eyes below the surface, then if during severe frosts the plants are cut down to the ground the buds below the surface will be sound and grow strongly. October and November are the best months for planting the hardiest varieties and the tender Teas in the spring, because if they are not well established before the winter some will probably be lost. In this district we must be careful to select only the hardiest Teas, as the tender ones will not stand our winters. The strongest dwarfs should be planted 3 feet apart each way, the weaker ones 2 feet; never allow anything else to grow on a Rose bed.

The bed or beds should be heavily mulched in the autumn with half-decayed manure, which acts not only as a feeder but as a protector during frosty weather. In the spring it should be lightly pricked in, but no attempt must be made to bury it or the surface roots will be injured.

PRUNING.

One great thing in pruning the Rose is to know the varieties you have to deal with, as some, if pruned hard, produce very few blooms. Take, for instance, the good old Rose *Gloire de Dijon*, known to all. If this is pruned hard it will produce strong shoots and few blooms, but if the strong shoots are left a mass of good flowers results; therefore in this case only the weak wood should be taken out, and a few strong growths if necessary, to shape the plant. On the other hand, if the old Hybrid *Perpetual John Hopper* be allowed to grow the same as the *Gloire de Dijon* plenty of flowers will be produced, but of poor quality. In this case hard pruning should be practised; strong wood pruned to about six eyes, the weaker the wood the harder it should be pruned, cutting out as much of the two-year-old wood as can be spared, keeping the centre of the plant open. Do not use a pair of hedge shears and clip them like a hedge, as I have sometimes seen done.

If good Roses are required over a long period prune some the first week in March, and the rest about a fortnight later. Another way to lengthen the period of flowering is to push a spade under the plant and gently lift it, then tread it back in its place. Perhaps this can hardly be termed pruning, as it is really breaking the roots, thus causing the plant to throw flowers between the summer and autumn seasons.

It is not my intention to enter into all the details of the different varieties. Certain sorts must be studied, and not condemned, till their habits are ascertained. For instance, the early blooms of the old *Bourbon Rose*, *Souvenir de la Malmaison*, are often very inferior, whilst its later flowers are all that can be desired. The same might be said of other varieties I could name that are good one season but not another.

ROSES IN POTS.

Here again I would recommend them to be grown on their own roots. I can get better plants and finer flowers this way than when worked on a stock. Of course if standards are required stocks are necessary, and certainly it is a charming sight to see standards forced well. For pot Roses use a rich compost of fibrous loam, a little decayed manure, and a few crushed bones, giving good drainage, and potting firmly. They should be established at least one season before being taken to a warm house, if not most likely the buds will drop.

In pruning pot Roses the Teas should simply have the weak wood taken out, and the hybrids be cut hard back. The syringe must play an important part, as also should watering. When well advanced in growth they will require feeding with liquid manure. Ventilate at the top of the house, not at the sides, or the plants will be attacked by mildew. —(Paper read by Mr. F. MASON at the *Hessle Gardeners' Mutual Improvement Society*.)

ENGLAND'S STRENGTH AND WEAKNESS.

THE matter you bring forward in your leading article (page 45) calls on all hands for the very most careful consideration. "For ninety days in the year we feed on bread from British-grown corn, and batten for 275 days on the aliens' corn." I believe it is a fact that during many months in the year there is now hardly enough food supply in the country for six weeks. And what would be the result of a naval disaster? The Navy League has been for months trying to get the country to see it. "The cheapness of bread in war depends on the strength of our Navy. If we were once defeated at sea, bread would not be 2s. or 2s. 6d. the quartern loaf, but simply unobtainable. If we can just hold our own, bread will not be 4d., as now, but 2s.; and as we grow stronger and stronger it will grow cheaper and cheaper." (Special leaflet, 1895). Recent events have shown how quickly a war storm cloud may blow up, and from how many various quarters. It is

by no means certain we might not find ourselves suddenly now at any moment in the position emphasised by a poet of the eighteenth century.

"A world is up in arms, and then a spot
Not quickly found, if negligently sought,
Thy soul as ample as thy bounds are small,
Endurest the brunt, and dar'st defy them all!"

I fear the analogy goes even yet farther; that there is not that looking to the only real defence which there should be. How very seldom is there any public recognition of our entire dependence on the protection of the Almighty! And what are wooden walls, or ironclads, or the thin red line without this? I again quote Cowper:—

"They trust in navies, and their navies fail,
God's curse can cast away ten thousand sail!
They trust in armies, and their courage dies,
In wisdom, wealth, in fortune, and in lies;
But all they trust in withers, as it must,
When He commands in whom they place no trust!"

God grant this may be never realised!—ALAN CHEALES.

GARDENERS' ROYAL BENEVOLENT INSTITUTION.

SPECIAL GENERAL MEETING.

A SPECIAL general meeting of members of the above Society was held at Simpson's, 101, Strand, London, on January 16th, at 2.15 P.M., for the purpose of considering the proposed alterations of several of the rules. Mr. Harry J. Veitch was elected Chairman, and, after the Secretary (Mr. G. J. Ingram) had read the notice calling the special meeting, Mr. Veitch proceeded to put the proposed alterations and additions to the meeting in rotative order. Some little discussion took place on several points, and suggestions were offered culminating eventually in the alterations being unanimously adopted.

One of the additions was to the effect that the Committee of Management should be increased from twenty-four to thirty-six members, twelve of whom shall be resident fifty or more miles from London, and one-third of whom shall be practical gardeners. "That Messrs. W. Atkinson, F. Bedford, P. Blair, H. J. Clayton, W. Crump, G. A. Dickson, M. Dunn, R. McKellar, R. Piper, R. Tait, J. H. Vallance, and P. C. M. Veitch, who are resident fifty miles from the registered office of the Institution, shall continue part of the Committee, and hold office as members thereof until the next general annual meeting."

ANNUAL GENERAL MEETING.

This followed the meeting recorded above, Mr. H. J. Veitch again occupying the chair. After the usual preliminaries, the Chairman called upon the Secretary to read the report of the Committee for 1895 and the statement of accounts, which are appended below.

"The Committee of the Gardeners' Royal Benevolent Institution have great pleasure in presenting their fifty-seventh annual report to the subscribers to the charity, whom they desire to congratulate upon the flourishing condition of the Institution, whose worth they feel, is still a great and much appreciated blessing among those who have been forced by adverse circumstances to solicit a share in its benefits. It is the greatest satisfaction to the Committee to be able to report that their annual festival dinner, held in June last, was one of the most successful on record. They desire to take this opportunity of expressing their deep sense of gratitude to his Grace the Duke of Fife, who so ably presided on this occasion. It is also gratifying to know that his Grace's earnest appeal on behalf of the Institution was met with a very liberal and generous response. The Committee likewise offer their sincere thanks to all who acted as stewards, and to all friends who in any way rendered assistance, thereby ensuring the success of the festival.

"In the past year eighteen pensioners have died, five of them leaving widows, whose cases, having been investigated and found deserving, have been placed on the pension list at £15 per annum in succession to their late husbands, under Rule III., 13. After careful consideration the Committee have decided to recommend an increase of fifteen pensioners to the number now on the books, five of whom, having complied with the conditions of Rule III., 5, they ask the subscribers to place on the funds without the trouble and expense of an election. The remaining ten will therefore be elected in the usual way. It is a source of great satisfaction to the Committee to be enabled thus to increase their number of pensioners by two, making a total number of 158, but at the same time they feel sorry that they are not able to render assistance to more of the exceptionally large number of applicants, whose cases are all deserving of that aid which must perforce be denied them at present.

"In their last report the Committee were enabled to announce the formation of an additional auxiliary at Wolverhampton. They now have the pleasure to state that a new branch has been established at Worcester, after a most successful inaugural meeting, presided over by the Right Hon. Earl Beauchamp, and addressed by the Treasurer of the Institution and the Secretary. To the organisers of the meeting, to the Hon. Secretary, and to all who worked so zealously in the cause, the Committee would express their hearty thanks. The Committee desire to thankfully acknowledge the receipt of £257 3s. 5d., being in part the proceeds of the fund raised to perpetuate the memory of the late Mr. William Thomson of Clovenfords. This sum has been invested, and will henceforth be known as the "William Thomson Memorial Fund." The sincere thanks of the Committee are also tendered to the promoters

of the concerts held at Altrincham in aid of the funds. They would also cordially thank other friends throughout the country who have in any way afforded help to the Institution during the past year.

"To increase, as they believe, the usefulness of the Institution the Committee have recommended partial alteration and additions to the existing rules, one of which they desire to specially mention, namely, the addition of twelve gentlemen to their body, to be known as 'country members,' and who are resident more than fifty miles from London. They trust that this will tend to create a greater and more widely diffused interest in the affairs of the Institution amongst gardeners and horticulturists generally, as different parts of the country will now be directly represented on the Committee of Management. They would also point out that they have recommended that market growers should be included amongst those who are eligible to participate in the benefits of the Institution. It is with regret that the Committee have to announce the resignation of their Chairman, Sir Alexander Arbuthnot, K.C.S.I., who, through ill health, has been compelled to relinquish the position. They are glad, however, to know that he will still retain a warm interest in the Institution, and they trust he will be long spared to do so. The Committee are sincerely pleased to announce that Mr. Harry J. Veitch has been unanimously elected to fill the vacancy.

"In conclusion the Committee would again remind their friends and supporters that for fifty-seven years the Gardeners' Royal Benevolent Institution has dispensed its benefits throughout the United Kingdom, and the heartfelt gratitude of those who have been assisted from its funds shows how highly its help is valued. The Committee earnestly desire to help more of the numerous applicants awaiting aid, and they therefore urgently appeal for additional support, so that the present income may be augmented, and the work which has been carried on with such signal success for so long a period and the beneficial effects of which cannot be over-estimated, may be extended and enlarged."

BALANCE-SHEET FOR 1895.

Dr.						
To Balance	...	...	...	...	...	£902 19 10
„ Deposit account	...	...	...	...	...	1400 0 0
„ Annual subscriptions	...	...	...	...	...	£1337 8 6
„ Donations at, and in consequence of, annual dinner, including stewards' list, and collecting card	...	...	...	...	...	1948 12 11
„ William Thomson Memorial Fund	...	...	...	...	...	257 3 5
„ Return of Income Tax	...	...	...	...	...	22 13 5
„ Advertisements in annual list	...	...	...	...	...	40 3 0
„ Dividends and interests on deposits	...	...	...	...	...	812 17 7
						4418 18 10
						£6721 18 8
Cr.						
By Pensions and gratuities	...	...	...	...	...	£2663 2 10
„ Expenses of election and annual meeting	...	...	...	...	...	16 1 5
„ Secretary's salary	...	...	...	...	...	£250 0 0
„ Office assistance	...	...	...	...	...	26 0 0
„ Rent of offices	...	...	...	...	...	62 10 0
						338 10 0
„ Marion & Co., for vellum address	...	...	...	...	...	10 10 0
„ Printing, general, including annual reports and list of subscribers	...	...	...	...	...	119 0 8
„ Stationery	...	...	...	...	...	21 10 5
„ Book of cheques	...	...	...	...	...	3 0 8
„ Expenses of annual dinner	...	...	...	...	...	£174 10 0
„ Less tickets sold	...	...	...	...	...	82 19 0
						91 11 0
„ Cost of appeals	...	...	...	...	...	12 15 8
„ Postage of annual reports and list of subscribers, ordinary postages, and incidental expenses	...	...	...	...	...	67 17 10
„ Deputation and travelling expenses	...	...	...	...	...	5 8 9
						73 6 7
						331 14 7
„ Investments:						
William Thomson Memorial Fund—Liverpool Corporation 3½ per cent. Stock	...	...	...	...	...	257 3 5
Cardiff Corporation 3 per cent. Stock	...	...	...	...	...	535 1 0
„ Life subscriptions:						
Liverpool Corporation 3½ per cent. Stock	...	...	...	...	...	409 10 0
„ On deposit	...	...	...	...	...	1265 0 0
						2466 14 5
„ Balance with Treasurer	...	...	...	...	...	905 9 5
„ Balance with Secretary	...	...	...	...	...	0 6 0
						905 15 5
						£6721 18 8

We have audited the accounts and have much pleasure in stating that we have found everything correct, and the books well kept. We also certify that the whole of the invested funds of the Institution are as stated, the securities being in the possession of Messrs. Glyn, Mills and Co. at the Bank of England.

(Signed) THOMAS MANNING }
 THOMAS SWIFT } Auditors.
 J. WILLARD }

January 14th, 1896.

A motion was put forward by Dr. M. T. Masters to the effect that the above report and balance-sheet be adopted and a hearty vote of thanks be accorded to the Committee for its able management of the business

throughout the past year. The motion was received with much approbation and carried unanimously.

It was proposed by Mr. G. Wythes that Mr. H. J. Veitch be re-elected Treasurer, and that the best thanks of the meeting be accorded to him for his strenuous efforts on behalf of the Institution, which proposition was unanimously agreed to.

Mr. A. F. Barron moved, "That Messrs. Baker, Hudson, Laing, Osborn, Turner, and Webber, who retire by rotation be re-elected members of Committee for the next four years," and "Messrs. Icton, Segar, R. Milligan Hogg be elected members of Committee in place of Sir Alexander Arbuthnot, Mr. W. J. Nutting and Mr. J. Lee." Carried.

On the proposition of Mr. Melady it was agreed "That Messrs. Manning, Thomas Swift, and Jesse Willard be re-elected auditors for the ensuing year, and that the best thanks of this meeting be presented to them for their kind services during the past year."

Mr. J. Hudson moved the resolution, which was unanimously carried, "That Messrs. W. Beste, W. Crane, H. Higgins, W. Johnson, and R. A. Jack be appointed arbitrators for the ensuing year."

Mr. G. J. Ingram was again elected Secretary of the Institution on the motion of Mr. P. C. M. Veitch, and Mr. Denning moved, "That S. Chinery of Boxford, Suffolk, aged seventy-one, gardener, a yearly subscriber of £1 ls. for fifteen years; A. H. Holmes of Balham, aged seventy-four, gardener, a yearly subscriber of £1 ls. for twenty-five years; W. Plester of Elsenham, aged seventy-two, gardener, a life member for twenty-four years; M. Bridger of Finsbury Park, aged seventy, gardener, a yearly subscriber of £1 ls. for fifteen years; and Elizabeth Simpson of Slough, aged sixty, whose late husband was a yearly subscriber of £1 ls. for nineteen years; whose cases have been investigated and come within the terms of Rule III., 5, be placed on the pension list without election from January 1st, 1896." This motion, on being put to the meeting, was carried unanimously. With the election of Messrs. A. Outram, J. Webber, and G. Monro as scrutineers of the ballot for the election of ten candidates for pensions, the business of the meeting concluded.

RESULT OF BALLOT.

The following is a list of the candidates for pensions, and an asterisk is placed against the names of the ten who were successful, together with the number of votes recorded in each case. The scrutineers found their task a heavy one, and it was a quarter-past six before the poll was declared. It may be interesting to note that 61,520 votes were recorded, and it is also a disappointing fact that from various causes 830 votes were spoiled. Thomas Bundy, 1327; David Cornell, 816; Hester Falconer, 3227*; Ambrose Minty, 727; John Percy, 2800*; Eliza Webb, 1985; Thomas Bannister, 2946*; Robert Begbie, 1325; Thomas Cawley, 1861; William Croshier, 2466*; Samuel Hicks, 161; Joseph Monk, 914; Joseph Shearn, 1441; Charles Smith, 2347; J. Akehurst, 615; H. C. Allman, 229; Geo. Ashby, 1633; William Bishop, 4021*; James Field, 2487*; George Fletcher, 3530*; Eliza Gardner, 113; Elizabeth Hepburn, 1217; Rachael Jefferson, 1592; William Lee, 1539; Samuel Pickstone, 2515*; Caroline Wood, 1012; Henry Wood, 3131*; William Wood, 1560; James Baker, 886; Andrew Bryan, 381; George Cragg, 62; David Davis, 1074; John Ewing, 3834*; James Finch, 572; William Freeman, 212; John Gibbons, 422; Henry Hughes, 798; Edmund Papworth, 1187; Lydia Rose, 1380; Thomas Simms, 906; William Thomas, 269.

A vote of thanks to the scrutineers for the trouble they had taken was carried on the proposal of Mr. B. Wynne, and a hearty vote of thanks to the Treasurer, Mr. H. J. Veitch, was moved by Mr. G. Head and carried amidst applause.

THE DINNER.

As a conclusion of the afternoon's proceedings the members and friends of the Institution partook of what has been termed the "lark pudding" dinner, owing to the presence of that dish on the occasion.

A large company sat down under the presidency of Mr. P. C. M. Veitch of Exeter. After the usual loyal toasts had been given, the Chairman rose and asked the company to drink to the prosperity of the Society, remarking that he was confident they would receive it with acclamation. He could not understand why gardeners generally do not study it more than they do. It was estimated that there were about 10,000 gardeners in Great Britain, and yet what a small number of these subscribed to the Society. If every gardener in the kingdom would put 4d. away every Saturday night for future benefits, and pay it into the Society, how greatly it would be augmented. On board ship it was customary to drink on Saturday nights the toast of "Sweethearts and Wives," as then it is a rule to put so much aside for those dependent on them at home. He thought it would be a good thing for gardeners to follow this example, and, figuratively at least, give this toast by putting that small sum on one side for emergencies that might arise. There were many who held high positions in the gardening world whom he would like to remind that they should support the Society. They may say, "Oh, I shall never need it for myself;" but are they so sure of that? He would in any case like to preach to them from the text, "In the morning sow thy seed, and in the evening withhold not thy hand, for thou knowest not which shall prosper, either this or that;" and he could point them to noble names in the gardening world who sowed the seeds of this Institution, never expecting a harvest for themselves, but believing that they were at least sowing for others. "Bnt lo, and behold the harvest has been returned tenfold into their own bosom." Yes, gentlemen, said Mr. Veitch, it is a grand return given by this Society to those who need its help in after years. See the record of men and women (155 pensioners) getting £20 and £16 a year for their subscription of

10 guineas or so a year for fifteen years, and some have drawn for this original outlay £300 or £400, or even £500, out of the funds of the Institution.

Mr. Veitch went on to say that it had been remarked that the Institution was confined too much to London. This was only true so far as London was a centre of gravity, and most of those who in London were receiving its benefits had come here from the provinces, and were for the most part country members. If this thought, however, prevailed it might be done away with, as the present Committee dealt with the Institution in a very broad way, the fact of the proposal to elect twelve members who shall reside fifty miles away from London proves this. One of his duties he said on that occasion was to impress upon them how broad the Society was, as within the last few years they had started auxiliaries in Birmingham, Wolverhampton, Bristol, Bath and Worcester, a system which he thought would be of great assistance to the Society. It was always his privilege on the authority of the Gardeners' Society at Exeter to invite Mr. H. J. Veitch, Mr. Ingram, and others, who cared to come to that town on March 4th, to consider the idea of starting an auxiliary there. With regard to the safety of the Society they had £28,000 invested, which brought in an income of £800 per annum, this being the sum upon which they were dependent for the provision of pensions. This was a record year, as the subscriptions and donations had never been greater, and the Treasurer and Committee had decided to invest sums of £10 of life members, in this way £409 had been invested. They had also invested £535 from the deposit account, and £257 to the memorial fund of the late Mr. Wm. Thomson, and they could not possibly have a more lasting memorial to a honoured member of the fraternity than such a one in a strictly Gardeners' Society.

He would like to see more young gardeners subscribe, and in order to attract them he suggested that they might make arrangements with one of the great insurance companies to insure the members for a small sum each. Another point worth considering was whether it was not possible to amalgamate the Gardeners' Royal Benevolent Society and the Royal Gardeners' Orphan Fund. He knew by this suggestion he would bring on his head the fury of the promoters of the latter worthy Society, but he thought the amalgamation would result in the formation of one grand institution. He also thought they might introduce a system of benefit in case of sickness, as many more young men would be induced to subscribe if they knew that by doing so they could look for some support in case of illness. He would, however, detain them no longer and bring his remarks to a conclusion by asking them to drink to the prosperity to the Society, coupling with the toast the name of their Treasurer Mr. Harry J. Veitch.

Amidst great applause Mr. H. J. Veitch rose to reply, and in course of his remarks said he was glad to say the Society is stronger now than ever it was before. It was, however, absolutely necessary that they should have a reserve fund; therefore he hoped they would all help to support them. With regard to the suggestion offered by the Chairman, the Committee was always open to receive such, but they must bear in mind that this is purely a benevolent Institution, and should not on any account be turned into a benefit society. He was glad the members had agreed to the proposition offered by the Committee to include twelve country members in its number. He was also pleased to say that they had no liabilities, and he should like to impress on those present the regrettable fact that 830 votes had been lost by the papers either not being correctly filled up or not signed. With regard to the safety of the Institution, he could assure them that every care is taken to see that the money is properly invested and spent. He concluded by thanking those present for coupling his name with the toast, and he hoped that next year would prove to be an even more successful one than the past.

Mr. R. Piper proposed the health of the Committee and honorary officers, coupling these with the names of Mr. J. Webber, Mr. O. Thomas, and Mr. Peacock, the honorary solicitor, to which each of the gentlemen named replied.

Mr. Arnold Moss gave the toast of "Country Friends," and amongst them those who superintended the provincial branches. The idea of starting auxiliaries was a splendid one, which he felt sure would be carried out to the benefit of the Society. He would couple with the toast the names of Mr. J. H. Vallance of the Bristol and Bath branch, and Mr. J. White of the Worcester branch. Both gentlemen briefly and suitably replied, Mr. Vallance stating that perhaps other auxiliaries might prove more powerful than that of Bristol and Bath, but they claimed the honour of being the first to start an auxiliary, an honour of which they were proud, and which would always remain. The health of the Chairman was proposed by Mr. N. Sherwood, and the former, when replying, claimed the privilege of proposing the health of Mr. G. J. Ingram, the Secretary, and thanking him for his unrelaxing efforts on behalf of the Society. Mr. Ingram suitably replied, and a most pleasant evening, to which music, instrumental and vocal, added an important item, was brought to a close.

TINNEA ÆTHIOPICA.

WITH this note I am sending you a flowering spray of a most beautiful stove plant, and one moreover that appears to be exceedingly scarce. As a rule *Tinnea æthiopica* (fig. 13) commences to flower early in the year, and by the beginning of February the plants are at their best. This year, however, my plants are flowering much earlier than usual, which, in my opinion, enhances their value considerably.

Not only is the plant elegant in habit, and the flowers richly and distinctly coloured, but they also possess a delicious fragrance very strongly suggestive of Violets, so that a few specimens in bloom will agreeably perfume a moderately large house. When, in addition to these qualities, the season of its flowering is considered, further recommendation is needless. The corolla is two-lipped, the lower lip being of a fine maroon colour, and the upper one more of a rich crimson hue. The calyx is large, slightly inflated, and pale green. The flowers are freely produced in axillary clusters at the upper portion of the shoots.

The culture of the plant is easy. A stove temperature is required, and this may debar many amateurs from growing it. A light, rich



FIG. 13.—TINNEA ÆTHIOPICA.

compost of loam, leaf soil and sand, suits the plant well; and the pots should be carefully drained. Cuttings of the young shoots root readily under a bell-glass in a little bottom heat.—R. P.

GARDENERS' FRIENDS.

I HAVE noticed with much pleasure the regular mention in the Journal of those two useful helps to gardeners—viz., the Gardeners' Royal Benevolent Institution and the Gardeners' Orphan Fund. With this view I am prompted to hope you may allow me to make a suggestion anent the matter in your columns.

My appeal is to the wives, daughters or sisters, as the case may be, of all horticulturists whose male relatives are not already subscribers to the funds in question. Most of us know that a portion at least of our female friends do take some interest in the gardening press; "Missus's" pithy notes in your columns to wit. We also know that these said persons share the ups and downs of life with us, and often have the difficult duty of expending our wages and salaries to the best advantage.

What I would suggest is that we should enlist their help and sympathy in seeing that a prominent place is given in every gardener's dwelling in the three kingdoms to a gardener's charity box. They should also use their well-known influence in seeing some small sum of money put into the box weekly, or at some regular period. The contents might occasionally be added to by placing it before visitors to the gardens, or anyone who is indebted to their male relatives for advice or help during the year. It should be opened annually at the close of the year. Very frequently whatever is needed could then be made up without much difficulty. As is well known, a guinea a year to the Gardeners' Benevolent Institution and 5s. to the Gardeners' Orphan Fund is much more than can well be spared all at once from many gardeners' incomes.

I hope this suggestion will not be misunderstood by our female friends. It is offered after much thought and some knowledge of the difficulties and trials of many to make ends meet. None of us knows what is before us, and if any of us have to fall back on the funds in question we shall feel all the better pleased to know that we have done our best to help them along when able, even if it is at some sacrifice to do this at the time.—YORKSHIRE SUBSCRIBER.

CHINESE PRIMROSES AT READING.

WITH the incoming of every new year there may be seen in Messrs. Sutton & Sons' nursery at Reading the earliest probably of all the season's flower shows. It is, however, a perfectly free exhibition, yet one that is always well worth seeing; and coming not merely once a year, but literally in midwinter, it is always fresh and attractive. If there be found in some of the very extensive range of houses in this nursery at the same time superb Cyclamens, Cinerarias, and other winter flowers, yet is the great feature of the show found in the Chinese Primroses, of which thousands are grown, and, with one special exception, every plant seems to be of exactly the same size.

The rule at Reading is to sow seeds of every variety grown, and these now are legion, early in the month of June, that having been found to be the very best time of the year to secure from seed quicker germination, and from the plants simultaneous growth and blooming. The exception above referred to is found in one house alone, and consists of what may be termed the shop tests or trials, for there, from a sowing made in July, may be seen several hundreds of even-sized plants all in 60-sized pots, several plants of a selection or variety, and running in each case in rows from the top to the bottom of the stage. Although these plants were from seeds sown only a month after the general stock of plants, they are fully two months later and smaller now, showing that, general culture and treatment being the same, June sowings give by far the most favourable results. However, every plant will bloom in these small pots, and when all are flowering they will present, if not the finest plants, at least one of the most varied collections of Chinese Primroses in the kingdom.

It seems as if and in spite of the splendid varieties now in commerce, we shall never reach finality with these Primulas. Inter-crossing for the purpose of procuring some desired results goes on yearly. The firm has in Mr. Martin one of the most skilled hybridists, and he is never satisfied. The Primula is happily yet unsatisfied also, or it would close up its forces and refuse longer to be improved. Of course development is now slow. There can be no leaps and bounds, but development if slow is very sure, and it is in the right direction. No matter what kind of flower the florist takes in hand, he endeavours to obtain from it greater variation as well as richness or purity of colouring, of finer form, of greater substance, of freer blooming, of compact and handsome habit, and in all these directions the Chinese Primrose has proved itself to be very supple in expert hands, and in the Reading strains all these features are found wonderfully marked.

The splendid Primulas of to-day seem to bear about the same relations to the original species of *Primula sinensis* as the Fancy Pansy does to *Viola tricolor* of the fields. There is, indeed, in one house a quantity of plants about to flower profusely of a tall pyramidal form of the *Stellata* type, the tips of which, both pallid and lilac, are of that small, thin, flat, smooth-edged form which characterised the Chinese Primula half a century ago. What a leap is it from these to the wonderfully massive and grand blooms of the giant strain, of which there are so many representatives here. In the matter of leafage the Primula is here divided into palmate, Fern, and moss-curved. The former, we all know, as of the old type; the Fern-leaf is very diverse from that common twenty years since, when leaves ranged from 8 to 9 inches long, and occupied far too much space; the moss-curved is remarkably handsome.

Small plants in tiny pots are singularly pleasing when seen in small vases and on tables, apart from the flowers which are still good, and then of these types of foliage there is pale green, dark, and very dark. The latter is specially found in a variety named Gipsy, rather a happy appellation, for if the leafage be of the colour of the *Perilla* the flowers are of the purest white. By-the-by there is a rather interesting fact shown in this case that is equally evidenced in most Primulas, and it is that the dark foliage invariably gives in the flowers the purest hue. That is not so much because of the greater contrast apparently, as that the white of the blooms is devoid of any green or pink shading.

The giant types, whilst having all ordinary foliage characteristics, yet have them stouter and finer than have the normal forms. Just so also have they the same exceeding size and stoutness in the flowers. Of these there are glorious variations of white, pink, rose, carmine and purple. Larger flowers can hardly be; indeed, were they bigger there would seem to be some discord in general dimensions of leaf, plant, and bloom. The madder, or blood red forms, are here in great profusion. Of this section the most remarkable is a selection, the flowers being of great size and substance, with colour of heavy blood maroon, the deepest hue of this character yet seen. Around each clear lemon eye is a ring of black, so that the flower is still further intensified. This is a remarkable break.

Then there is a brilliant selection, the colour being of a fiery blood red. What size and substance, as well as of form, in these flowers. Another variety has such intensely ruddy carmine hue that it comes nearest to a scarlet yet seen. Then there are carmines, rosy pinks,

purples, lavenders, and reds in great abundance. There are two of the large, bright, *marginata* type, one having a bluish ground, and the other a reddish rose ground that are exceedingly attractive. Single blues are very attractive. How beautiful they look here in the mass, and in bright daylight. Whites, again, are numerous. One from *Snowdrift* having a contraction in the flower tubes will bear any amount of shaking ere the flowers will fall. It is a profuse bloomer.

But it is doubtful whether the attention of the gardener who is ever seeking for flowers that are new and useful will not be most keenly attracted to the doubles, or, as commonly called, semi-doubles, which come so true from seeds. How fine relatively are the flowers of the newer strains, and how much do the centre petals seem to be increasing in bulk as well as in substance. Very soon these fine doubles from seeds will be as densely petalled as are the named doubles, but it is hoped, at least, they may retain their present good seeding properties. One of the newest is a remarkably fine and very pure white, not yet named. This should make a very fine variety for the bouquetists to grow for gathering from. Almost as fine is the blue, which in this case shows dense bright colour. Quite as fine is one of the parents of the white form, the *heliotrope* coloured variety.

Beyond these are there scarlet, carmine, pink, purple, several whites, and a very beautiful flaked form that shows both carmine and purple markings, sometimes on the same flower, but chiefly on separate flowers. The curled leafage has given fine doubles, one a pretty rosy white flower, so that we may soon expect to see this pleasing leafage associated with all the colours, and double and single flowers found on the older strains. Hence it may be assumed that the end of the Chinese Primula is a long way off, and ere it comes we shall see yet greater things than has been accomplished. This great Reading collection will be at its best from the middle to the end of February; but for the next three months there will be a wealth of beauty to see and enjoy.—D.

LEEDS PROFESSIONAL GARDENERS' FRIENDLY BENEFIT SOCIETY.

THE twenty-ninth annual dinner of the above Society was held at the Green Dragon Hotel, Guildford Street, Leeds, on Friday evening, the 17th inst., when about forty members and friends spent a very enjoyable evening; Mr. John Lazenby (President) in the chair, and Mr. H. Smith in the vice-chair. Several letters were read by the Chairman from gentlemen expressing sorrow at their inability to attend.

After the usual loyal toasts had been given by the Chairman, the Secretary, Mr. William Sunley, read the annual report, and stated that the Society had nineteen honorary members and 132 financial members. The income for the year had been £144 4s. 6d. and the expenditure £92 18s. 7½d., leaving a balance to be carried forward of £51 5s. 10½d., which, added to the previous savings, makes a total of £1157 9s. 9d. placed to the Society's credit. The report was considered a very satisfactory one.

The toast of the evening was given by Mr. E. Elliott, Huddersfield, who, in the course of his remarks, thought that the encouragement of gardening in rural districts, as a supplementary source of income, might to some extent diminish the influx of the rural population into the already crowded centres of industry. In responding, Mr. H. Wright said that, from a financial point of view, the Society would compare very favourably with that of any kindred society.

Mr. J. Clayton, in responding for hon. members, remarked that he thought the Society was not made sufficiently known amongst gardeners, or it would increase its members much more than it did. He stated he had lived most of his life within about twenty miles from Leeds, and it was only recently that he had heard that such a Society existed, and he thought that its benefits ought to be made known through the gardening press, and by so doing make it better known amongst gardeners. Mr. Clayton went on to say, "I do not know of any other gardeners' society where the benefits during sickness are so good. A small contribution of 3d. per week entitles a member to 10s. per week for twenty-six weeks, then 5s. per week so long as he remains incapable of following his employment; at the death of a member £10, and £7 for a member's wife, is paid to the person entitled to draw it."

Any gardener thinking of joining such a society can obtain all necessary information from the Secretary, Mr. W. Sunley, 8, Woodhouse Cliff, Leeds.—J. W. FRANKLAND, *The Gardens, Chapel Allerton Hall, Leeds.*

[We have received a copy of the rules of this Society. They are good, and are duly registered under the Friendly Societies' Act. We believe the Society to be safe, sound, well managed, and worthy the attention of a much larger number of working gardeners than are at present enrolled.]

OSBERTON HALL.

CALLING in the gardens at Osberton Hall, Worksop, recently I saw that the gardener, Mr. T. Crasp, had been transplanting about 150 large pyramidal Apple and Pear trees. These had been planted many years and had overgrown their position, overlapping the walks and making it inconvenient and uncomfortable to walk near the edge. They had not been very successful fruiters of late years, but it is hoped that the moving of them may have the desired effect of throwing them into a more fruitful state. They were all lifted with good balls, the roots

carefully pruned and the trees planted several feet further back from the walk.

Mr. Crasp has previously gained great credit in another place for transplanting large trees. The experience obtained there will no doubt stand him in good need here. I see he has taken the precaution to wrap all the stems round with straw ropes, and each tree is securely fastened by several stakes.

In the houses I noticed a few fine bunches of Muscat of Alexandria Grapes still hanging, and some magnificent examples of Grosse Guillaume; the latter especially would grace any exhibition table. The earliest Vines and Peach houses are already started, and the others are all cleaned and ready for their turn.

A fine, healthy stock of about 700 Carnation Souvenir de la Malmaison has been worked up. As is well known, this grower secured the gold medal at Earl's Court a few years since for his fine display of this noble flower, and apparently he means to keep himself to the front with it.

The first week in the year is not the time to see a garden at its best, but in one stove house there was a gorgeous display of Crotons of many varieties grown principally for table decoration, Dracenas, Pandanus Veitchi, and many other foliage; intermixed amongst them was a large number of Poinsettias, with their showy bracts and the graceful sprays of Euphorbia jacquiniæflora.

In other houses are grown in quantities Bouvardias, Primulas, Lily of the Valley, Calanthe Veitchi, and Roman Hyacinths to supply the demand for cut blooms. A long pit is planted with Gardenias, all having the appearance of robust health, and able to bear quantities of bloom, their great enemy mealy bug not being seen amongst them.

In one of the conservatories is now in full bloom a fine specimen of Rhododendron argenteum. It has been planted about twenty-four years, and has a height of 15 feet by 18 feet in diameter. It would have been much higher, but has been topped several times to keep it from touching the roof of the house. At the present time it has scores of trusses of its beautiful flowers fully expanded.

Mushrooms are amongst the many things in these gardens which are well done. In every available shed, heated or unheated, the beds are seen in every stage, from the newly spawned to the older ones in full bearing, quite equal to the advertisements of spawn, thought by many people to be exaggerated.

In the grounds is to be seen a fine Hemlock Spruce, whose branches sweep down to the ground, and have a circumference of 85 yards, making a conspicuous object on the lawn. — R. SCOTT, Carlton, Worksop.



FRUIT FORCING.

Pines.—*Plants for Early Summer Fruiting.*—The plants which completed their growth early last autumn, and have been treated as advised, so as to push fruit early in the year, will now be doing so; if not, they must be accelerated by extra care and attention, which will be fully repaid by the fruit ripening at a time when it is most in request for parties during what is known as the London season, good Enville and Queens, with neat crowns and good colour, being appreciated. Take every advantage, therefore, of suitable weather to afford increased heat during the day. Allow the temperature to rise to 80° before giving air, then, with moderate ventilation, let it rise to 85° or 90°, closing at 85°, the night temperature being gradually raised to 70° and 75° by day by artificial means, unless the weather be dull and cold, when 5° less will be more suitable. The moisture will need to be increased correspondingly with the temperature, but do not syringe the plants or the hot-water pipes, yet maintain a genial condition of the atmosphere by damping unheated surfaces two or three times a day. Keep the bottom heat steady at 85° to 90° for Queens, other varieties about 5° less. Look the plants over once a week for watering, and when they need a supply afford weak liquid manure, such as 1 lb. guano to 20 gallons of water, at the same temperature as the plunging material.

Fruiting Plants.—Ordinary fruiting plants should have a temperature at night 60° to 65°, 65° by day in dull cold weather, 70° to 75° in mild, with a little sun, ventilating at 75°, allowing an advance to 80° with sun, at which close the house, sprinkling the paths and walls at the same time.

Succession Plants.—Sufficient heat to maintain the plants in slow yet steady development of growth is necessary in this department. That will be secured by a night temperature of 55° to 60°, and 60° to 65° by day, advancing to 70° or 75° from sun heat, with moderate ventilation, so as to secure a sturdy plant, keeping the atmosphere moderately dry, as too much moisture at the present time either at the roots or in the air tends to a soft attenuated growth.

Peaches and Nectarines.—*Earliest Forced Trees.*—The flowers must be fertilised as they expand, and the pollen becomes ripe, distributing it over the stigmas. Syringing may be resorted to both morning and afternoon when the fruit is well set, but in dull weather

damping the paths and borders will be sufficient; and in cold weather syringe sufficiently early to allow the foliage to become dry some time before nightfall. Water used for syringing must be of the same temperature as the house. Ascertain that there is no deficiency of moisture in borders inside, watering thoroughly if necessary, as dribbles are next to useless. Disbudding must soon have attention. It must be done carefully at this early season, removing a few growths daily from a tree preferably to many at distant intervals. The latter practice gives a check to the roots at the expense of the fruit, which for lack of assimilated matter often falls at this juncture in consequence of sap congestion.

Maintain the night temperature at 55°, 5° less in very severe weather, and 5° more in mild weather; 60° to 65° by day artificially, 5° less on those figures when the weather is cold and dull. Ventilate early, admitting a little air at 65°, not allowing an advance over 70° without full ventilation, closing at 65°, always excepting a small portion left at the top of the house constantly. This prevents a vitiated atmosphere, securing a healthy condition in the leaves, enabling them to do more and better work in the daytime.

Second Early Forced Trees.—Those started at the beginning of the month are expanding their flowers, and before they open it is well to make a close scrutiny of the trees, and if any aphides are seen fumigate or vaporise to exterminate the pests. Great care is necessary in fumigating, as the organs of fructification are easily and irreparably damaged. Where there is an excess of blossom buds draw the hand the contrary way of the growth along the under side or back of the trellis, so as to remove all those situated there; and if that is not enough thin them well with the forefinger, leaving the best situated and most promising. Syringing must cease when the buds show colour, but damp the house in the morning and early afternoon; for though damp, stagnant, cold air is not favourable to Nectarine and Peach blossoms, or the trees in any stage of their growth, a dry atmosphere is pernicious by provoking constant and excessive evaporation. See that inside borders are thoroughly moistened through to the drainage, but avoid needless waterings.

Succession and Late Houses.—Finish pruning the trees in succession houses at once, not deferring that of those in late houses beyond movement in the buds. Dress the trees with an insecticide, after washing with softsoapy water, 4 ozs. to a gallon of water, taking care not to dislocate the buds, not using the dressing at "winter" strength if the buds are advanced in swelling. Secure the trees to the trellis, allowing ample space in the ligatures for the swelling of the branches, and leave room between these for laying in young wood for future bearing. Fork the border lightly, not disturbing the roots, removing any loose soil, and supply fresh loam, but not more than an inch or two in thickness, and top-dress with an approved fertiliser.

If the borders are at all dry they should be given a thorough watering. Where the roof-lights have been removed watering will not be required, the soil being in a thoroughly moist condition from rain. Maintain a genial atmosphere as a preventive of the buds falling. Bud-dropping, however, is due to other causes than deficiency of moisture at the roots or in the air during the resting period. Over-maturity, as in early and consecutively forced trees, imperfect bud formation through a deficiency of moisture at the roots or in the atmosphere during the summer, or lack of support and assimilating power through attacks of parasites, and too crowded a condition of the foliage, conduce to the misfortune.

Figs.—*Early Forced Trees in Pots.*—Those started in November or beginning of December to afford ripe fruit in April are forming fresh roots abundantly, therefore the bottom heat must be kept steady at 70° to 75°, bringing the fermenting material to the rim of the pots. This will encourage surface roots, and instead of letting these extend over the rims into the fermenting material, place turves round the tops of the pots, and extending over or down the sides, which will keep the roots near home and induce a sturdy growth, while the roots can be fed in the turf. To encourage active feeders from the collar fill the hollows formed by the turves with sweet lumpy manure or rough pieces of turf, and sprinkle these occasionally with a little approved chemical fertiliser. Keep the atmosphere healthfully moist by syringing twice a day and damping as required in dry weather, taking advantage of every gleam of sunshine for raising the heat to 80°, but admit a little air at 70°, increasing it with the temperature, closing at 75° and so as to raise to 80° or more. In dull weather the temperature should be kept at 60° by night and 65° by day, but 5° more in both cases when the weather is mild, while in cold a few degrees will be better than more. Rub off superfluous growths and stop the shoots at about the fourth or fifth good leaf, but trees making sturdy growths will not need stopping, and may produce the finest Figs.

Early Forced Planted out Fig Trees.—The trees started early in the month, and having the roots restricted to narrow borders, will require watering, and, if very dry, repeatedly to bring and maintain the soil in a moist condition, especially as the trees are starting into growth and need water alike for the supply of nutriment and the diffusion of stored matter. The night temperature may be raised to 55°, and 60° to 65° from fire heat, with an advance from sun heat to 70° or 75°, but with moderate ventilation. Syringe the trees in the morning and afternoon of bright days, the latter always sufficiently early to allow the trees to become fairly dry before night, and in dull weather omit the afternoon syringing. Weakly trees may have a good supply of liquid manure at a temperature corresponding to the mean of the house, but it must neither be too strong nor excessive in quantity, while it will only make matters worse where the growth is strong. Judicious manurial

applications induce active fibrous roots near the surface for appropriating the food supplied.

Cherry House.—Keep a sharp look out for aphides, which seem to come into activity with the expanding buds, evidently emerging from the eggs simultaneously with the casting of the bud scales, and at once fastening on the growths. This they must be prevented doing by fumigating so as to thoroughly annihilate the pests, for it is essential that the blossoms be perfectly developed. Syringe the trees up to the blossom showing white, but cease then, damping the paths and border instead and ventilating freely. Keep the house at 40° by night, 45° to 50° by day by artificial means, ventilating at 50°, and allowing a rise of 10° to 15° from sun heat, with full ventilation, closing the house for the day at 50°. Examine the border, and, if there be a deficiency of moisture, supply water so as to moisten the soil down to the drainage, and attend regularly to the needs of trees in pots.

Strawberries in Pots.—The plants introduced early in December have pushed the flower scapes simultaneously with the leaves, and minute aphides are showing themselves. Where this is the case fumigating must be had recourse to so as to compass their destruction before the flowers expand. Damp the paths in the morning and early afternoon, and keep the temperature at from 50° to 55° artificially, with an advance of 10° to 15° from sun heat. On bright days the plants as well as the paths should be syringed, as evaporation will take place much more rapidly, and the atmosphere will become sufficiently dry before dark. Lose no opportunity of closing early, so as to raise the temperature to 70° to 75° from sun heat. Allow the temperature to fall to 50° at night, 5° higher if the weather be mild. Look the plants over daily for watering, giving those in need a thorough supply.

THE KITCHEN GARDEN.

Beet.—In many gardens last season the Beet crop was either a partial or complete failure, and as a consequence the roots are scarce. In order to avoid having a gap in the supply, the attempt should be made to grow an extra early crop. Under frame culture tender well-coloured roots could be had fit for use early in May, and it is possible to pull good roots in the open from the middle to the end of June. The Turnip-rooted section, of which Crimson Ball is a good selection, is the best for early sowing. Sow now thinly in pans or boxes of light loamy soil, and place in gentle heat to germinate. Before the seedlings become drawn raise them well up to the glass, hardening somewhat if intended for frames, and thoroughly if they are to be transplanted to a south border early in April. A mild bottom heat suffices in the case of frame culture; the soil should be raised well up to the glass and made firm. Plenty of light and air must be admitted to the plants, or they will not "bulb" satisfactorily.

Peas in Pots.—The crops obtained under pot culture are never heavy, but if early dishes are particularly wanted then it pays to grow them. There should be four dozen pots sown at a time. Hard forcing must not be attempted, and for this reason the sooner a sowing is made the greater the likelihood of dishes of Peas being had early in May. Chelsea Gem and William Hurst are among the best of the dwarf varieties for pot culture. These would answer well in the case of sowings that are to be grown on shelves and stagings in 9-inch and 10-inch pots; but if there is sufficient head room, then taller varieties, including Duke of Albany, may be substituted, and larger pots may be used. Sow thinly and cover with 2 inches of soil. Place in gentle heat, or say in a newly started Peach house or vinery, and avoid saturating the soil.

Peas in Frames.—In pits, glazed or otherwise, and in ordinary garden frames dwarf Peas succeed well. All they need is a good start, plenty of nourishing light and air directly they are well established, and rough protection from frosts and frosty winds. Transplanting promotes a sturdy, early, productive growth, and should be practised. Raise the plants in gentle heat with a view to having them sturdy when wanted for the frames. When about 2 inches high they ought to be planted out, longer delay resulting in premature flowering. Prepare a firm, mild hotbed, only enough heat to give the plants a good start being required, and on this place a thin layer of decayed manure and 8 inches of light loamy soil. Plant thickly in deep drills 15 inches apart, and lightly stake at once, a quick-growing Cabbage Lettuce, to be planted midway between the rows of Peas, more than repaying for all the trouble taken.

Peas for the Open Borders.—Raising under glass and planting out early Peas usually means a gain of from a week to ten days, those sown in the open where they are to crop invariably giving later if heavier supplies. Sowing in boxes, troughs and pots, much as advised in the case of frame crops in January, and placing in a comparatively cool house for the seed to germinate, answers better than sowing a fortnight or three weeks later in heat. Exonian, William I., and other superior early varieties are all suitable for raising under glass and planting out; while if Duke of Albany is similarly treated, and topped occasionally when growing and flowering freely, a very close succession will be the result.

Early Lettuces.—Early Paris Market and Golden Queen Cabbage Lettuces are both amenable to gentle forcing, and can be had remarkably good out of frames, a mild bottom heat only being needed. Sow the seed at once, thinly, in pans and boxes, and place in a moderately strong heat to germinate, transferring to shelves near to the glass when the plants are up. Soon after they have formed a second rough leaf prepare hotbed of leaves and manure, placing enough of the same

material inside the frame to raise 6 inches of good loamy soil well up to the glass. Directly this has become warmed through, and there is no likelihood of overheating taking place, prick out the plants 4 inches apart each way, eventually cutting one-half for use before they have actually hearted in, and leaving the rest to attain to their full size. During cold nights the frames ought to be heavily protected, and being otherwise well tended the growth of the plants should be rapid and the quality of Lettuces of the best.

Raising Cauliflower Plants.—Unless autumn raised plants are plentiful an early sowing of seed should now be made. The forcing varieties are the best for giving extra early hearts, and these also might be grown in pits or frames if desirable. Either Early London or Erfurt Mammoth would form a good succession, and if Magnum Bonum and Veitch's Autumn Giant were raised at the same time quite a long succession would result. Sow thinly, and subject to gentle heat.

Turnips.—These are abundant enough, but if the mild weather lasts an early growth of greens will take place, and the roots be spoilt for cooking. If, therefore, a good supply of the roots have not been stored there ought to be no further delay in the matter. Select those of medium size, top them, and store in heaps. Be careful not to mix the varieties. They would keep in cool sheds and cellars, or they may be "pitted" quite in the open, covering with straw and soil. Those that have been so stored for some time past ought to be examined, and, if need be, turned and cleared of shoots. Place roots of Swedish Turnips in a warm dark cellar. They will give a supply of tender blanched growths that may be used similarly to Seakale, and will, perhaps, be acceptable, especially if all other green vegetables are scarce.

PLANT HOUSES.

Adiantum cuneatum.—From a number of these all the fronds useful for cutting may have been removed. This will certainly be the case if the plants have been in a fairly warm temperature. Too much heat and moisture settling on the fronds soon turns them brown and unsuitable for use. Plants in this condition may be cut close over before young fronds push up. Where plants have been kept cooler and not syringed good fronds will be plentiful for some time. Directly the cut-over plants display signs of starting potting may be done if necessary. It is often better to keep the plants in the pots in which they have been growing and gently feed in preference to turning them out. When the plants are broken into small pieces a season is necessary before they are again in active growth. It is better to raise seedlings, as they have youth and vigour on their side, and grow freely from the first. Plants cut over may be placed in a temperature of 60°, when they will quickly push fresh fronds.

Pteris serrulata.—Healthy young plants of this and the stronger crested forms now growing in 3-inch pots will soon make capital decorative specimens if transferred to 5-inch and placed in vineries or even Peach houses at work. The close moist condition of these structures suit them admirably, and they soon push fresh fronds. Larger plants that have been damaged or the fronds have been removed soon grow again under the same conditions. It is advisable to have a young stock of these plants from spores coming forward to take the place of any used in rooms, which can then be thrown away as they become shabby.

Microlepia hirta cristata.—This is one of the best Ferns provided it is not grown in too warm a temperature, when it soon becomes a prey to scale. In the conservatory it does well, and in baskets develops into beautiful specimens. Plants that have been in a temperature of 45° to 50° will soon commence rapid growth again if started in a little higher temperature. This variety does not like starving at its roots, as, being a strong grower, it has a tendency to go back if very much root-bound. If larger plants are needed directly signs of movement are visible those in 5 and 6-inch pots may be placed into larger. To have a stock of good plants in small pots some of the largest with plenty of crowns may be cut close over, the crowns divided and dibbled thickly into a box. They soon start into growth in brisk heat, when they can be potted singly and hardened to an intermediate temperature. This Fern does well in vineries throughout the growing season.

Polystichum proliferum.—This is certainly a useful Fern in a small state, and is easily raised by pegging down on light soil the fronds of a well-established plant. Young plants in 2 and 3-inch pots that have been resting under the stage may be started into growth. The old fronds may be cut away and the plants either started into growth before potting or they may be placed into 4 and 5-inch pots at once. They start well in a vinery or Peach house at work, and from these structures will soon be ready for furnishing.

Nephrolepis exaltata.—This is a very useful Fern for decorative purposes, as it is easily grown, lasts in good condition throughout the winter, and few stand better when cut. In from 3 to 8-inch pots it is useful, and is very effective arranged amongst other Ferns or flowering plants. Small portions placed into pots soon become established in heat, and by the autumn will become attractive plants. Young pieces are readily removed from the side of baskets, and in some cases sufficient can be obtained without breaking up plants altogether.

Cyperus alternifolius.—The leaves of these are very acceptable where much decoration is carried out. Plants are readily raised from seeds sown in heat. We find a number useful in dark corners for filling in behind other plants. For large vases their lengthy slender stems rise well above other things, and give a light graceful appearance. For yielding these a few plants in 5-inch pots may be placed into 7 or even 8-inch. Gentle warmth will soon start them into growth, and by the autumn large plants, well furnished, will result.

THE BEE-KEEPER.

APIARIAN NOTES.

HINTS FROM EXPERIENCE.

(Continued from page 63.)

IN my last notes I mentioned Mr. S. Bevan Fox's huge super of 70 lbs. weight, but twenty years or more before that Mr. Baird, now of Carron Lodge, Falkirk, was at work producing his hundred-weight supers on the two queens in one hive system, paragons of beauty and purity, but too large for handling or selling. The art of supering is simple and easily understood, but often not carried out as it ought to be. The practised eye can tell almost to a minute when hives are ready for supering, and if they arrive at that point at the longest day it is opportune. I use thin adapting boards, admitting the bees by the side openings only. This allows more bees to go afield for honey; the purity of the supers is preserved, much extra labour to the bees and nasty work to the bee-keeper avoided, than when excluder zinc is used. The adapting board preserves the tops of the frames in a cleanly state, and facilitates the lifting of the supers *en masse* if a trap is used. The construction can be made to admit the bees to the crown of the hive, or lead them outside above the main entrance. Cone escapes, as they are termed, do not work satisfactorily at all times.

The strength of the hive determines whether one or two supers should be given, and in the event of fine weather, and the honey flow continuing, I pile the empty ones over those nearly finished. There is much to lose and nothing to be gained by interposing them, which I will endeavour to show. Our supers are not darkened by the vitiated air of the bees as when zinc is used, nor in consequence of the crown being close, do the bees in the supers prepare the cells for brood as they do when open. It sometimes happens that bees cluster out frequently before a change when the air is sultry and the honey most plentiful; yet the bees lie idle. On these occasions the bee-keeper should have his wits about him, and must study the weather. Now suppose a hive could carry in 10 lbs. a day and you will realise the loss by letting them loiter.

When my bees show distress for want of room by the hive being too small or for want of super room, which I know by their loud humming, and this occurring at such times as alluded to above, I give them every chance to finish the supers already on, adding sections or small supers in proportion to their wants. If occasion require I give gradually till a change comes, as by that system the bees are kept at work during the time of the greatest honey flow.

As a rule feeding back does not pay, and this holds good when the unfinished ones are in the majority. But when they are few in number, and the bee-keeper has no honey but that from white combs, it does pay to feed back, which is best done by driven bees. Put one or more colonies into an undersized hive, crowding them as much as possible, letting them remain in that state for about a day, or even more. Now put sections or supers on this hive a little before sunset, by which time the bees will have their wax pockets filled, and be ready to begin sealing. Have the very finest honey you can procure, little diluted with water, to the consistency of nectar in the flowers, as the bees gather it. Feed constantly with under feeders, keeping the supers warmly covered. A hive such as I have in "my eye" will finish to perfection 100 lbs. in a week. After all I have said, there are times when the bee-keeper may find it to his advantage to deviate from the true course, but it must be with the utmost care.—A LANARKSHIRE BEE-KEEPER.

NOTES ON BEES.

AT the present time, when so many bee-keepers are making arrangements for another season, it may be an advantage to refer to this interesting pastime, examine any notes, mental or otherwise, made during the busy season, and endeavour to improve as far as possible in the future. Mistakes have probably been made in the management of certain stocks. Some may have been supered too early, others too late; but from whatever cause let us try to make less errors during the coming season. The secret of being a successful bee-keeper is to do the right thing at the right time, and, as "L. B.-K." lately remarked, "The whole question of successfully wintering bees lies in keeping them with ample stores in a perfectly dry state." If we all did this there would be fewer complaints as to the want of success in bee management.

PROFITABLE BEE-KEEPING.

When one has a hobby it is much more satisfactory to the majority of people if they can make it pay. The weather, how-

ever, is a great factor in honey production, and unfortunately we have more bad seasons than good ones. What is even more annoying to a bee-keeper, after all the care, trouble, and expense, is to find that during the honey flow his hives are full and overflowing with bees, and yet no harvest is collected. Day after day the weather is dull and showery, and when the fine bright weather comes it is too late. Bee-keepers require a great amount of patience; still, taking one year with another, bees may be kept at a profit in this country. But the fancy prices obtained a few years ago cannot be obtained now except amongst a few local retail customers who are not particular as to price if honey is of a superior quality.

It should be the aim of all bee-keepers to endeavour to create a local trade for their produce, putting it up neatly in saleable form. If in sections, although not necessary, it is an advantage to glaze them, and for run honey, for retail purposes, I prefer the 1 lb. screw top glass jar. These, of English manufacture, can now be obtained much cheaper than formerly, and if neatly labelled with the producer's own label, it will be a mark of genuineness which will be appreciated by the general public. During the past few years bee-keeping in this country has made considerable headway, and tons of honey are now gathered where previously hundred-weights were obtained. It behoves all bee-keepers, and others interested in the business, to use their best endeavours to create a liking for the home-produced article. The foreigner has a great advantage in the weather, but cannot compete with the British honey for quality; still vast quantities are imported into this country, as from a return furnished by the Statistical Office, H.M. Customs, "the total value of honey imported into this country during 1895 was £41,302." Some of this is doubtless sold by unprincipled dealers as English, as owing to the low price at which it can be purchased in bulk a much greater profit is made out of it than would be the case with English honey.—AN ENGLISH BEE-KEEPER.

WIDE VERSUS NARROW ENTRANCES.

ON page 42 "An English Bee-keeper," in reply to my letter of January 2nd says, "It is interesting to learn from 'A Howdenshire Bee-keeper' that he approves of bottom ventilation, and that we are both working on the same principle." I fail to see that the principle is the same. To my mind it is very different. My hives with perforated zinc floors, and the entrances 1 inch wide, must be warmer than hives with solid floors and entrances from 6 to 8 inches in width. My hives with ventilating floors wintered on eighteen frames far better than standard hives on ten frames with solid floors. A ventilating floor is a safety valve to any hive, both as regards wintering and transit. I believe a strong hive would winter if raised half an inch from the floor board. But it is the dry warm cosy hives in which most progress in breeding is made, and in such breeding is now going on. It is interesting to see that "An English Bee-keeper" now recommends an inch wide entrance for hives with ventilating floors, for he says on November 28th, 1895, page 520, "Some of my hives have ventilated floor boards, others have an eke 4 inches in depth placed under the body of the hive, but all have their entrances fully open." This letter is not in the spirit of carping criticism, for I am an anxious inquirer into the best methods of wintering bees. I read the articles of "A. E. B." with pleasure and profit, but cannot see eye to eye with him in this matter.—A HOWDENSHERE BEE-KEEPER.

TRADE CATALOGUES RECEIVED.

- J. Carter & Co., 237, High Holborn, W.C.—*Specialities.*
- Daniels Bros., Norwich.—*Guide for Amateur Gardeners.*
- B. R. Davis, Yeovil, Somerset.—*Begonias with Separate Coloured Illustration.*
- Fisher, Son, & Sibray, Limited, Sheffield.—*Seed Catalogue.*
- Fotheringham & King, Dumfries.—*Seeds.*
- Hogg & Wood, Coldstream, N.B.—*General List of Garden Seeds.*
- John Jefferies & Sons, Cirencester.—*Seed Catalogue.*
- A. Robinson, 1A, Bishopsgate Street Without, E.C.—*Seeds.*
- William Rumsey, Waltham Cross.—*Catalogue of Seeds.*
- T. Sibbald, Market Place, Bishop Auckland.—*Seeds.*
- B. Soddy, 243, Walworth Road, London.—*Seeds.*
- W. H. Titt, 24, Thames Street, Windsor.—*Seeds.*
- Vilmorin, Andrieux & Co., Paris.—*Seed Catalogue.*

GARDENERS' CHARITABLE AND PROVIDENT INSTITUTIONS.

THE GARDENERS' ROYAL BENEVOLENT INSTITUTION.—*Secretary, Mr. G. J. Ingram, 50, Parliament Street, London, W.C.*

UNITED HORTICULTURAL BENEFIT AND PROVIDENT SOCIETY.—*Secretary, Mr. W. Collins, 9, Martindale Road, Balham, London, S.W.*

ROYAL GARDENERS' ORPHAN FUND.—*Secretary, Mr. A. F. Barron, Royal Horticultural Society's Gardens, Chiswick, London, W.*



* All correspondence should be directed either to "THE EDITOR" or to "THE PUBLISHER." Letters addressed to Dr. Hogg or members of the staff often remain unopened unavoidably. We request that no one will write privately to any of our correspondents, as doing so subjects them to unjustifiable trouble and expense.

Correspondents should not mix up on the same sheet questions relating to Gardening and those on Bee subjects, and should never send more than two or three questions at once. All articles intended for insertion should be written on one side of the paper only. We cannot reply to questions through the post, and we do not undertake to return rejected communications.

Insects' Eggs on Currants (S.).—You cannot obtain any better information on this subject than that found on page 73 and headed "Destroying Insect Eggs on Fruit Trees."

Small Pink Rose (J. E.).—No doubt the variety that you inquire about and desire is the Rose de Meaux. It is not generally grown, though a dainty old Rose, and extremely floriferous. We think it is grown by Messrs. William Paul & Son, Waltham Cross. Your other questions cannot be answered this week.

Chemical Constituents of a Dahlia Plant (Reader).—We have not an analysis of the Dahlia, but shall willingly publish one if kindly supplied by a competent authority. We have just received a book by Dr. Griffiths, in which it strikes us that some useless analyses are given, including "Palavias," but none of far more important plants, including Dahlias.

Peach Trees for Cool House (J. C. B.).—The best time to plant Peach trees, or any trees for that matter, is as soon as the leaves part freely from the shoots in the autumn, but removals may be safely effected during the winter up to the commencement of growth in the spring, though the earlier it is done the better. We presume you want the varieties to come in successively. In that case the following would suit you, Hale's Early, Dymond, and Bellegarde.

Wood Ashes—R.H.S. Examinations (Inquirer).—Wood ashes are excellent for Vines and Roses in pots. About seven or eight parts of loam to one of ashes may be employed. A sprinkling of bonemeal and crushed lime rubbish would be also beneficial, while some loams are improved by decayed manure. The Royal Horticultural Society's examinations will be held on May 6th. They consist in answering questions in writing within a stipulated time in a closed room without books. You can obtain information by writing to the Secretary of the Society, 117, Victoria Street, Westminster, S.W.

Removing old Gloire de Dijon Roses under Glass (Bolton).—The best time to do this is in the autumn, or when the leaves commence falling, taking the plants up very carefully so as to preserve as many roots as possible. In replanting cut the bruised roots smooth to sound parts, working the soil well in amongst them, making moderately firm, and giving a gentle watering, mulching over the roots with a little short manure. The trees will then callus at the roots during the winter, and being rather severely pruned they make a good start in the spring. If done carefully, the trees may be moved now, taking particular care of the roots and cutting the heads well, even severely back, so as to correspond with the loss of roots.

Peach and Nectarine (J. J. S.).—The Peach is closely allied to the Almond, and is botanically known as *Amygdalus persica*, also by modern authorities as *Persica vulgaris*. The specific name in the one case and generic in the other, being derived from Persia, the supposed native country of the fruit. From the Latin *Persica* we have the French *Pêche*, and in turn the English Peach. The Nectarine is a smooth skinned form of the Peach, and is known botanically as *Amygdalus persica laevis*, or *Persica vulgaris* var. *laevis*. The name Nectarine is derived from nectar. "Nectarean, resembling nectar—very sweet and pleasant;" thus we have Nectarine—a fruit of nectareous flavour. It is a comparatively modern name, and until some time during the early part of the present century both downy and smooth fruits were catalogued under the name Peach. The smooth form was a sport from the downy Peach, and as smooth varieties increased, and as they differed also in flavour from the prototype, they were properly included in a distinct section, under the now established name of Nectarine. Nectarines have been raised from Peach stones, and Peaches from those of Nectarines. We have not only seen Peach trees produce smooth-skinned fruit in a sportive way (not through budding), but fruits half downy and half smooth, though these are not common. You are quite correct in the assumption that the Nectarine is really a Peach with a smooth skin. We can only say that the leaf you send has a resemblance to *Salisburia adiantifolia*. We have seen the tree trained against walls, but it is not a "climber." You should have said from whence you obtained it.

Specimen Zonal Pelargoniums and Fuchsia (John).—We should keep the plants rather dry at the roots for about a fortnight, but not to the extent of causing the wood to shrivel, then prune to the extent desired, the Fuchsia much closer than the Zonal Pelargoniums, as these are in vigorous health. When the plants commence free growth turn them out of the pots, reduce the ball about one-third and return to the same size. This would enable you to give the plants fresh soil to grow in, allow of the drainage being made good, and in every way be better than merely top-dressing. The plants are better for a short rest, and the treatment advised would afford it for a few weeks. You would then have more compact growth, which is very desirable in specimens. Pot firmly.

Camellia Buds Decaying (J. H. R.).—As the buds of several other varieties have developed properly, and as the foliage sent is clean and healthy, we suspect the incipient petals have become sealed at the tips. It is not a case of ordinary bud dropping, or the buds would have been cast long ago. These are much swollen, and have been forced off by the pressure of the sap. In all probability, if with a sharp knife you had taken off the tip of the buds some weeks ago, as if taking off the end of a cigar, the blooms would have expanded. We have found this plan effectual in at least a hundred instances on a large tree which, but for the operation, would have afforded few if any blooms. The effect of the tipping is not observable on the petals; it is visible to those who know what to look for, and that is about all. Try the plan when you have an opportunity, and report progress.

Analysis of Pollen (J. E.).—The analyses of pollen do not differ materially from that of protoplasm, and vary very little in that of the Vine and Plum, but there are slight variations in different varieties of the same species or sub-species. To enter on this subject is to treat on protoplasm—the element of organic or living existence, and commencing with the atom trace up step by step the whole evolution of matter, by progressive stages to its highest development. Pollen-protoplasm is the beginning of life; therefore, to understand life we must understand protoplasm. It consists of five elements, and its average composition is said by chemists to be 52.55 per cent. carbon, 21.63 oxygen, 15.17 nitrogen, 6.7 hydrogen, 1.2 sulphur. If you get analyses you may find very little difference between that of the lowest and highest plant, or of the lowest animal and the highest; yet there is an essential difference, which is far too elaborate a subject for us to enter. We do not know where you will find the analyses you require.

Chemical Manure for Coniferous Trees (J. E.).—Perhaps the best material you could use in your case would be basic slag phosphate in connection with superphosphate of lime. The basic slag phosphate should be applied alone late in the autumn at the rate of 10 cwt. per acre, 7 lbs. per rod, and the superphosphate in the spring, following early or before growth commences. It will not do to use the materials together, owing to the presence of free lime in the basic slag phosphate. The quantity of superphosphate to apply is 3½ lbs. per rod, 5 cwt. per acre. The basic slag should be pointed in lightly, also the superphosphate, merely loosening the surface. If roots are abundant there cover with a little soil, preferably leaf mould. Such treatment produced the finest *Cupressus Lawsoniana* at the present time in England. What they want is phosphoric acid and lime. It will answer well for Hollies. After the first year a more all-round manure may be needed. In the absence of slag now give an extra dressing of superphosphate.

Rhododendrons in Window Boxes—Vallotas (W. S.).—Rhododendrons do not as a rule do well as permanent occupants of window boxes, as the roots get frozen in severe weather, and the delicate hair-like fibres perish. When potted in sandy peat, and plunged in cocoa refuse to the rims in the boxes the shrubs do fairly well if not exposed to cutting winds. It is necessary to keep the soil moist, never allowing it to become very dry; but on the other hand it must not be made sodden and sour by needless applications of water. You might try weak clear soot water, not darker than pale sherry. This may improve the colour of the leaves, and subsequently benefit the flowers if the roots of the plants are in healthy state. Vallotas do not require bottom heat, but should be kept in a light position in a well managed greenhouse. Your plants must be in a bad condition at the roots, otherwise they would develop the flower buds on the scape, and also push growth freely at this time or soon. Many Vallotas are so infested with the bulb mite that they cannot grow, but linger in a diseased state, getting "smaller by degrees and beautifully less," ultimately perishing. For this pest there are few things better than gas liquor one part by measure to five parts water, using it as in watering. We, of course, do not know that your bulbs are infested, but we do not know otherwise why they should not grow.

Tomato Seedlings (W. L. H.).—So far as we can discover there is no fungus on the tissues, or any overgrowth. Under the microscope, and with a powerful illumination, the seed leaf was shown to be so thin and destitute of chlorophyll as to be almost transparent; this accounting for the paleness in colour, and even for the little white patches. With every cell under view fungal hyphae would have been readily detected had there been any, or even the plasma in the central axis. The seedlings are extremely weak and attenuated, the cells being about one-sixth the normal size, and the chlorophyll granules scarcely discernible in some of the cells. The plants ought to be placed nearer the light, but if you have sent a fair sample they are so spindly as to be scarcely worth the trouble. Perhaps you have sent the worst specimen. The parasite *Fusicladium fulvum* (Cooke) sometimes passes over attached to the seed, and enters the plant by the radicle, then either destroying the seedling or producing outgrowths, but we fail to find either hyphae or

outgrowth in your specimen. If the whole of your plants are like the one examined we would not have them as a gift. We should much prefer others by sowing seeds very thinly and growing the plants under favourable conditions from their earliest stages. Thousands of Tomato plants are practically ruined every year within a month of the seed being sown.

Oncidium Phymatophilum (Hortus).—Unless your Orchid roots are eaten by woodlice or other insects, there is something in the moss that is detrimental to them. Sphagnum alone is hardly the material to use for the species you name, but if properly washed and picked over before use it would not cause the roots to decay. The best thing you can do is to find out, first of all, whether it is the work of insects or not, and with plants suspended from the roof this is an easy matter. Dip each plant in a vessel of water for an hour, and if there are any insects in the compost this will drive at least some of them out. After this, lay some pieces of potato about them, cutting a tuber in two and scooping it out a little, placing the hollow side to the compost. Wait a day or two until the flesh of the potato shrivels a little, and then examine them every morning. If there are any you can take it that herein lies the mischief, and when all are trapped it will cease; but if none are found then it must be the compost, and the best thing to do will be to turn the plants out of their baskets and give fresh material, using half the quantity of moss, the other half good peat fibre. See that no foreign material is introduced with either ingredient, water carefully after repotting, and you should find the roots enter the compost freely. Of course we take it for granted that the atmospheric conditions of your house are right, as a very low temperature combined with too much moisture in the air would be likely to cause the same tendency to decay.

Names of Fruits.—*Notice.*—We have pleasure in naming good typical fruits (when the names are discoverable) for the convenience of regular subscribers, who are the growers of such fruit, and not collectors of specimens from non-subscribers. This latter procedure is wholly irregular, and we trust that none of our readers will allow themselves to be made the mediums in infringing our rules. Special attention is directed to the following decision, the object of which is to discourage the growth of inferior and promote the culture of superior varieties. *In consequence of the large number of worthless Apples and Pears sent to this office to be named, it has been decided to name only specimens and varieties of approved merit, and to reject the inferior, which are not worth sending or growing.* The names and addresses of senders of fruit or flowers to be named must in all cases be enclosed with the specimens, whether letters referring to the fruit are sent by post or not. The names are not necessarily required for publication, initials sufficing for that. Only six specimens can be named at once, and any beyond that number cannot be preserved. *They should be sent on the first indication of change towards ripening. Dessert Pears cannot be named in a hard green state.* (P. D.).—1, Bess Pool; 2, Blenheim Orange; 3, not known, probably local.

Names of Plants.—We only undertake to name species of plants not varieties that have originated from seeds and termed florists' flowers. Flowering specimens are necessary of flowering plants, and Fern fronds should bear spores. Specimens should arrive in a fresh state in firm boxes. Slightly damp moss, soft green grass, or leaves form the best packing, dry wool the worst. Not more than six specimens can be named at once, and the numbers should be visible without untying the ligatures, it being often difficult to separate them when the paper is damp. (R. S.).—1, *Euonymus radicans variegata*; 2, *Trichomanes reniforme*; 3, *T. radicans*.

COVENT GARDEN MARKET.—JANUARY 22ND.

VERY little home produce is now in the Market, and with the exception of Grapes and Cucumbers, it is almost entirely dependent upon foreign supplies.

FRUIT.

	s.	d.	s.	d.		s.	d.	s.	d.
Apples, per bushel	2	0	to	3	Lemons, case	11	0	to	14
„ Nova Scotia, barrel	13	0	17	0	Pears, Californian, per case	13	0	14	0
Grapes, per lb.	1	0	2	0	St. Michael Pines, each ..	2	0	6	0

VEGETABLES.

	s.	d.	s.	d.		s.	d.	s.	d.
Beans, per lb.	0	10	to	1	Mustard and Cress, punnet	0	2	to	0
Beet, Red, dozen	1	0	0	0	Onions, bushel	3	6	4	0
Carrots, bunch	0	3	0	4	Parsley, dozen bunches ..	2	0	3	0
Cauliflowers, dozen ..	2	0	3	0	Parsnips, dozen	1	0	0	0
Celery, bundle	1	0	0	0	Potatoes, per cwt.	2	0	4	0
Oleworths, dozen bunches	2	0	4	0	Salsafy, bundle	1	0	1	6
Cucumbers, dozen	4	0	14	0	Seakale, per basket	1	6	1	9
Endive, dozen	1	3	1	6	Scorzoneria, bundle	1	6	0	0
Herbs, bunch	0	3	0	0	Shallots, per lb.	0	3	0	0
Leeks, bunch	0	2	0	0	Spinach, bushel	2	0	2	3
Lettuce, dozen	1	3	0	0	Sprouts, half siv.	2	6	0	0
Mushrooms, per lb. ..	0	6	0	8	Tomatoes, per lb.	0	6	0	9
					Turnips, bunch	0	3	0	0

PLANTS IN POTS.

	s.	d.	s.	d.		s.	d.	s.	d.
Arbor Vitæ (golden) dozen	6	0	to	12	Ferns (small) per hundred	4	0	to	6
Aspidistra, dozen	18	0	36	0	Ficus elastica, each	1	0	7	0
Aspidistra, specimen plant	5	0	10	6	Foliage plants, var. each	1	0	5	0
Chrysanthemums, per doz	6	0	18	0	Hyacinths, dozen pots ..	9	0	12	0
Cineraria, dozen pots ..	9	0	12	0	Lycopodiums, dozen	3	0	4	0
Cyclamen, dozen pots ..	8	0	15	0	Marguerite Daisy, dozen ..	6	0	9	0
Dracaena, various, dozen ..	12	0	30	0	Myrtles, dozen	6	0	9	0
Dracaena viridis, dozen ..	9	0	18	0	Palms, in var., each	1	0	15	0
Ericas, various, per dozen	9	0	24	0	„ (specimens)	2	0	23	0
Euonymus, var., dozen ..	6	0	18	0	Solanums, per dozen	8	0	12	0
Evergreens, in var., dozen	6	0	24	0	Tulips, dozen pots	6	0	8	0
Ferns in variety, dozen ..	4	0	18	0					

AVERAGE WHOLESALE PRICES.—OUT FLOWERS.—Orchid Blooms in variety.

	s.	d.	s.	d.		s.	d.	s.	d.
Acacia or Mimosa (French)					Primula (double), dozen				
per bunch	0	9	to	1	sprays	0	6	to	1
Arum Lilies, 12 blooms ..	3	0	5	0	Roses (indoor), dozen ..	1	0	2	0
Asparagus Fern, per bunch	2	0	4	0	„ Tea, white, dozen ..	1	6	3	0
Bouvardias, bunch	0	6	1	0	„ Yellow, dozen (Niels)	3	0	6	0
Carnations, 12 blooms ..	1	0	3	0	„ Red, dozen blooms ..	1	0	1	6
Chrysanthemum, doz. bunch	3	0	6	0	„ Safrano (English),				
Eucharis, dozen	3	0	4	0	dozen	1	6	3	0
Gardenias, dozen	2	0	4	0	„ Safrano (French), per				
Geranium, scarlet, doz.					dozen	1	6	2	0
bunches	4	0	9	0	„ Pink (French), per				
Hyacinth (Roman) dozen					dozen	3	0	4	0
sprays	0	4	0	9	Smilax, per bunch	5	0	6	0
Hyacinths, dozen spikes ..	3	0	6	0	Stephanotis, dozen sprays	6	0	9	0
Lilac (French) per bunch	5	0	5	6	Tuberose, 12 blooms ..	0	4	0	6
Lilium longiflorum, twelve					Tulips, dozen blooms ..	0	6	1	6
blooms	4	0	6	0	Violets Parme (French),				
Lily of the Valley, dozen					per bunch	4	6	6	0
sprays	0	9	1	6	„ Czar (French), per				
Maidenhair Fern, doz. bchs.	4	0	8	0	bunch	2	0	3	0
Marguerites, 12 bunches ..	2	8	4	0	„ Victoria (French),				
Orchids, various, dozen					12 bunches	1	9	2	6
blooms	1	6	12	0	„ English, 12 bunches	1	0	2	0
Pelargoniums, 12 bunches	6	0	9	0					



PROFITABLE FARMING.

IN the mixed farming, which is coming more and more to the front, fruit holds a position of degrees very much in accordance with apparent possibilities. The proportion, sorts, and arrangement of fruit are, or should be, governed by this and by special requirements on the farm. Whatever is done let it be done thoroughly after deliberate consideration of how the fruit is to be cultivated, and how turned to account. The man who tells us he has "tried fruit" and found there was nothing in it—i.e., no profit, was most probably ignorant of the first principles of fruit cultivation. Many a time have we when consulted advised caution and a preliminary trial by means of test crops, or else the employment of an expert of approved capacity. Such annual crops as corn or roots are trifles in comparison with those of more permanent character, like fruit and pasture.

A correspondent residing in Kent has just planted fifteen acres of "good loam, with a clay subsoil," with standard Cherries and Plums, the Cherries being 36 feet apart, with the Plums between them 18 feet apart. He intends laying this land down to permanent pasture in four divisions for sheep, and asks about seeds to be sown in March or April, how soon afterwards he will be able to turn in sheep, and what number of sheep per acre the pasture will carry. He starts with the very sensible and practical premise that the sheep will manure the pasture, supply his household with mutton, and afford some profit by the sale of surplus animals. Under good management all this is very possible, and as such a bit of good practice is entirely on the lines of sound home farming it has a prominent place here. Let us take the matter in detail from the beginning.

Autumn tillage by means of a steam cultivator and harrows would leave the land in perfect order for planting by the end of October or early in November. No manure should be used at the planting, but in March before sowing the seed for permanent pasture a proper dressing of pure home-mixed chemical manure should be sown broadcast and well harrowed in, following this immediately with the seed, which it is of especial importance to cover well, or the loss by small birds will be serious as they swoop down in vast numbers quickly after the sowing, and it requires an active boy or two constantly on the alert to keep them off. A deep fine-tillth and a bush harrow attached to fine light Barley harrows answers best for covering the seed, which should consist of about 30 lbs. of Grass

seed, and 10 lbs. of Yarrow and Clover per acre, in something approximate to the following quantities:—

Italian Rye Grass	...	...	...	...	5 lbs.
Perennial Rye Grass	...	...	...	...	12
Timothy	...	...	...	...	3
Dogstail	...	...	...	...	1
Meadow Fescue	...	...	...	...	2
Meadow Foxtail	...	...	...	...	2
Cocksfoot	...	...	...	...	5
Perennial Clover	...	...	...	...	2
Red Clover	...	...	...	...	2
Alsike	...	...	...	...	2
White Clover	...	...	...	...	2
Yarrow	...	...	...	...	2—40 lbs.

This we know to be a safe, sound mixture, calculated to yield an abundance of nutritious herbage, and to carry eight or ten sheep to the acre, if only due attention is given to sustained fertility of soil. As our correspondent says, the sheep should impart this, and they will under intelligent management, but not if left to themselves. Turned into either of the four divisions of the orchard to wander at will, they would be certain to seek the driest and most sheltered spot at night. It is at night that they do most good to the land, because they go together to repose; that is precisely why one part of sheep pasture is so often seen to be richer than the remainder. The only safe way for the first two years is to fold the sheep, the proper time to begin folding the first season being when the growth is strong, yet soon enough to prevent any of it running to seed. Passed over lightly and carefully thus in folds the herbage is consumed evenly, the manure is concentrated and efficient, and brisk successional growth is certain. If, on the contrary, the sheep are not folded, but left loose, the finer grasses will be eaten, the coarser grasses left—we may go farther, and say that the finer grasses will be destroyed.

Next autumn, in October—early or late in the month, according to the weather—the sheep must be withdrawn altogether till spring growth begins. If the weather should happen to continue fine and open they may even remain till November; but knowing how frequently the weather becomes exceedingly wet and cold in October, our rule (not inflexible) is to withdraw them then for the two first winters.

WORK ON THE HOME FARM.

The curing of bacon and hams has been going steadily on since November, from a selection of pigs run over the stubbles after last harvest, and then shut up and fed for this purpose. Our somewhat old-fashioned but safe method of having both hams and bacon a month in pickle and a month in smoke is the reason why we are engaged during most of the winter in curing enough for twelve months' supply for the household. As the flitches and hams are finished they are taken out of the smoking bags, and suspended from the roof of the bacon room at the farm. Before the fly season begins the hams will each have a stout paper bag, made quite secure at the mouth, to ward off attacks of flies.

In connection with this matter we may usefully call attention to the urgent need which exists for a general improvement in the breeding of pigs. Those of inferior breed are plentiful enough, but superior pigs always in request—always profitable—are so scarce that one of the large bacon firms complains of the poor supply, notwithstanding the fact of its offering a premium for pigs bred up to its standard, or in other words, suitable for its requirements.

The reform—the profitable improvement required in this direction—is as simple as it is certain. Often have we told how by the introduction of a pedigree boar we improved the local breed in a remarkable manner. It is all a matter of selection and care, of attention to detail, of heedful regard to the profitable results which follow early maturity. Whether pigs are for porkers or bacon hogs let us have the best only; they cost less to feed, they return a higher percentage of profit always, because they are not affected by market changes in anything like the degree that inferior animals are.

Get rid of all old sows, or any that are becoming so large as to be unwieldy; they are apt to lie on their young, and consume enormous quantities of food, for which they afford nothing like an adequate return. Much better sell them at a loss, and have nothing on the farm in that way but young sows. Have plenty of them, there are few animals so profitable, none affording so speedy a return.

OUR LETTER BOX.

Large Mangolds for Exhibition (J. M.).—Huge roots are obtained by special and more or less costly culture. The finest Mangolds we have seen growing were on a farm of 600 acres, or rather a portion

of the farm that was cultivated as a garden, not with the plough but the spade. An acre of land was set apart for the giants. It was trenched 2 feet deep or more, and made rich throughout by the lavish use of the best manure from cake-fed animals. Although the soil was good to begin with, 8 inches of the manure was spread on the top of the under spit, and with the foot or rather more of the soil above this was incorporated a generous amount of the same kind of manure older and more crumbling in its nature. Seeds were sown in April in prepared stations, 30 inches apart. A compost heap was formed of free soil, decayed vegetable matter and wood ashes, a couple of pecks of soot and the same of bone meal added to a cartload. The mixing was done well, and the heap twice turned prior to use. It was protected from heavy rains. A slight hollow was made in the soil and a good spadeful of the mixture placed in it. Half-a-dozen selected seeds were inserted 2 inches asunder in each station. The plants grew sturdily and were gradually thinned, leaving the best in each station. Dredged with crushed nitrate of soda about $\frac{1}{2}$ oz. around each station the growth became luxuriant. The land was hoed every week and the whole dressed with 3 cwt. of salt and 2 cwt. of nitrate of soda. Nor was this all, for where the plants were half grown several loads of liquid manure were given to them, or the best of them, and these became abnormally large. Although $2\frac{1}{2}$ feet apart some were drawn out to afford room for the others and care was taken not to injure the leaves. It was a costly process but answered its purpose, ending in the winning of a silver cup and several valuable money prizes. If you are prepared to proceed in somewhat the same way you may grow large Mangolds, also Swedish and other Turnips. The only mistake made for having all the roots large was in not affording each plant a square yard to grow in. Fine roots may be grown in fields by throwing open wide and deep furrows 30 inches apart, cramming them with manure, splitting the ridges over it, and sowing in the then raised rows, some good cultivators drilling about 3 cwt. of superphosphate and half the quantity of crushed nitrate of soda per acre with the seeds for giving a quick and strong growth to the plants. If the farmyard manure is not of the best it may be sprinkled with bone meal prior to covering. The horse hoe is kept going during the growing season for preventing weeds, and a top-dressing given of salt and nitrate of soda. Sulphate of ammonia is more sustaining than nitrate of soda, and found preferable by some cultivators in non-chalky soils.

Laying Down Light Land to Permanent Pasture (P. A. M.)

—Lay down the land to grass with a crop of Black Tartarian Oats, of which sow 4 bushels per acre early in March, or better still in February if the weather is open then, as your sandy soil can be worked so easily. Drill in with the Oats per acre 1 cwt. nitrate of soda, 2 cwt. superphosphate, $\frac{1}{2}$ cwt. bone flour, $\frac{1}{2}$ cwt. muriate of potash. If you have not got a suitable drill for applying manure with the corn, sow the manure by hand broadcast first, give it a turn with the harrows, then drill in the corn. When the Oat plant is well up, sow broadcast and harrow in lightly the following mixture:—

Perennial Rye Grass	...	...	...	...	...	10 lbs.
Cocksfoot	...	...	...	...	...	6
Catstail	...	...	...	...	...	3
Meadow Fescue	...	...	...	...	...	2
Crested Dogstail	...	...	...	...	...	5
Hard Fescue	...	...	...	...	...	4
Sheep's Fescue	...	...	...	...	...	4
Golden Oat Grass	...	...	...	...	...	1
Yarrow	...	...	...	...	...	2
Perennial Red Clover	...	...	...	...	...	1
Alsike	...	...	...	...	...	1
Dutch Clover	...	...	...	...	...	1—40 lbs.

METEOROLOGICAL OBSERVATIONS.

CAMDEN SQUARE, LONDON.

Lat. $51^{\circ} 32' 40''$ N.; Long. $0^{\circ} 8' 0''$ W.; Altitude 111 feet.

DATE.	9 A.M.					IN THE DAY.				Rain.
1896 January.	Barometer at 32°, and Sea Level.	Hygrometer.		Direction of Wind.	Temp. of soil at 1 foot.	Shade Tem- perature.		Radiation Temperature		
		Dry.	Wet.			Max.	Min.	In Sun.	On Grass.	
	Inchs.	deg.	deg.		deg.	deg.	deg.	deg.	Inchs.	
Sunday .. 12	30.408	36.6	34.8	N.W.	39.5	39.9	35.8	42.9	34.6	0.017
Monday .. 13	29.959	37.2	36.3	N.W.	39.4	48.1	36.4	57.9	32.8	0.101
Tuesday .. 14	29.320	47.7	45.8	N.W.	39.4	48.1	36.9	50.2	32.6	0.100
Wednesday 15	29.559	46.6	45.9	S.W.	39.9	52.3	35.7	61.1	30.2	0.010
Thursday .. 16	30.013	39.7	37.2	W.	40.0	49.2	36.6	61.8	30.7	—
Friday .. 17	30.152	46.4	44.4	N.W.	40.4	52.7	40.0	66.3	35.1	—
Saturday .. 18	30.239	46.0	43.7	W.	41.3	47.3	42.4	52.0	36.3	—
	29.950	42.9	41.2		40.0	48.2	37.7	56.0	33.2	0.228

REMARKS.

12th.—Overcast day, with a shower about 2 P.M.
13th.—Bright sunshine all day; cloudy evening.
14th.—Rain from 1 A.M. to 4 A.M.; dull showery morning, a little sun at 3 P.M., and showers again later.
15th.—Showery from 3 to 7 A.M., and dull morning; sunny afternoon; shower at 7.30 P.M., clear later.
16th.—Bright sunshine in morning; overcast for a couple of hours at midday, and sunshine again later.
17th.—Fine with a good deal of sun, but cloudy for two or three hours at midday.
18th.—Overcast morning; fine but sunless afternoon.
A mild week, but in no wise remarkable.—G. J. SYMONS.

WEBBS' NEW CARROTS

WEBBS' MARKET FAVOURITE.

A remarkably handsome variety, indispensable for early use, and a splendid keeper. It is of exceedingly rapid growth, and produces very thick beautifully-shaped roots, about 6 inches long, which are of rich colour and fine quality.

1s. per Ounce, Post Free.

WEBBS' DEFIANCE INTERMEDIATE.

A very select variety of this favourite vegetable, which is specially adapted for growing in shallow soils. It is of beautiful shape, rich colour, and remarkably sweet and tender; valuable for exhibition purposes.

1s. per Ounce, Post Free.

From Mrs. LEWIS-ANDREW, Glan Hafren.

"Last year one Carrot, grown from your Seed (Webbs' Defiance) weighed 4 lbs. 2 ozs., and measured 16 inches; and several others were over 3 lbs."

See Webbs' Spring Catalogue, post free, 1s.

WEBBS', WORDSLEY, STOURBRIDGE.

SUTTON'S PRIMULAS

These Beautiful flowers are now in full bloom, and are making a wonderful show at

SUTTON & SONS London Road Seed Grounds, READING.

"D," in "Journal of Horticulture" for January 23, 1896, says:

"With the incoming of every new year there may be seen in Messrs. Sutton & Sons' Nursery at Reading the earliest, probably, of all the season's Flower Shows. It is, however, a perfectly free exhibition, yet one that is always worth seeing. The great feature of the show is the Chinese Primroses, of which thousands are grown."



Journal of Horticulture.

THURSDAY, JANUARY 30, 1896.

OVERCROWDING TREES AND SHRUBS.

BEAUTIFUL effects in our gardens are often destroyed by the common error of planting too closely at first, resulting in a tangled mass of ruined trees, dead and dying vegetation. The stronger and more robust smother those of a weaker nature, and force them outwards into positions they were never intended to occupy, while some are driven out of existence. The undergrowth disappears altogether, the whole presenting a bare, neglected appearance. It is often said that this state of things is due to negligence in thinning, and this may sometimes be the case, but it does not alter the fact that too close planting is the initial cause in many instances. Very often many choice ornamental deciduous and evergreen trees are spoiled through not taking into consideration the size to which each individual specimen will attain. No doubt for several years after planting a group of select trees looks well, even picturesque, but the time comes when it is difficult to know which to remove. The fact is that three times the number of trees actually required have been planted, with the result that they are allowed to grow together until there is not one really good specimen.

From my own personal experience, combined with that which has been observed in other gardens, too many of the commoner forest trees are planted too near walks, or to choice kinds that should have every encouragement to develop naturally. The former rob those of slower growth, ruin the undergrowth, and eventually destroy every good tree near them. The grass suffers, and after a few years cannot be induced to grow, while large numbers of flowering shrubs are so overshadowed that they will not flower. One instance of a crowded group may be given, all the trees being enumerated, and to thoroughly develop themselves there is only room for three or four at the most. The group consists of two Golden Queen Hollies, one Golden Yew, two Cedars, one Gold-edged Box, one Irish Yew, one Lilac, one Scarlet Oak, one semi-evergreen variety, one Acacia, one Cut-leaved Lime, one Norway Maple, one Purple Beech, one of the better Thorns, one Horse Chestnut,

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| 1 Pint Broad Beans | 1 Pkt. Gourd or Pumpkin |
| 1 Pint French Beans | 1 Pkt. Leek, Ayton Castle |
| 1 Pint Runner Beans | 2 Pkts. Lettuce, Cos and Cabbage |
| 1 Pkt. Beet, dark red | |
| 1 Pkt. Borecole, curled | 3 Ozs. Mustard, white |
| 1 Pkt. Brussels Sprouts | 1 Pkt. Melon, choice [&c.] |
| 2 Pkts. Broccoli, early and late | 2 Ozs. Onion, White Spanish, |
| 2 Pkts. Cabbage, best sorts | 1 Pkt. Parsley, fine curled |
| 1 Pkt. Savoy, dwarf Drumhead | 1 Oz. Parsnip, hollow-crowned |
| 1½ Oz. Carrot, Intermediate, &c. | 1 Oz. Radish, long and turnip |
| 1 Pkt. Cauliflower, Giant | 2 Ozs. Spinach |
| 1 Pkt. Celery, best sorts | 2 Ozs. Turnip, Snowball, &c. |
| 4 Ozs. Cress, plain | 1 Pkt. Vegetable Marrow |
| 2 Pkts. Cucumber, frame and ridge | 3 Pkts. Herbs, Sweet and Pot |
| 1 Pkt. Endive, moss curled | 2 Pkts. Tomato, Scarlet Perfection, &c. |

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CARNATION SEED, saved from extra choice stage varieties, 2s. 6d. and 5s. per Packet; saved from a choice collection of border varieties, including Yellow grounds, 1s. and 2s. 6d. per Packet.

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and in the centre one common Elm. Besides these there are numerous stumps of Laurels and other dwarf plants that have long since died. Unfortunately there is not one good tree in the group, the Chestnut and Elm being the two best. No doubt years ago this combination looked very well, but how can they be thinned and improved to-day? If one is removed here and there lop-sided specimens are exposed to view. If the bottom could be filled up with undergrowth I should in all such cases advise them to be left to mingle their foliage together. But unfortunately undergrowth cannot be induced to flourish when the soil is robbed of all moisture, full of roots, and light excluded.

There are those who admire these tangled masses of foliage; see beauty in the dead and dying undergrowth and in the sickly and ruined constitution of others. It is true that there is beauty of a striking nature often observable in a mixture of foliage. We have often admired it on the hill side and by the edge of a running stream where such masses are appropriate with the surroundings. But they do not harmonise with neat shaven lawns and well kept walks. In such positions a few good shapely specimens, having room to develop their true characteristics, are much more commanding and handsome than a garden full of crowded unshapely trees.

The method of renovation is often a difficult one and attended with no small amount of care and worry; yet these difficulties must be grappled with or the evil becomes yearly considerably worse. When these matters are taken in hand in earnest some few trees or shrubs may be saved from the wreck. Sometimes it is best to clear out the whole, prepare the ground well and replant, but this is not always practicable and would give to many places a bare appearance. When a clump is thoroughly cleared all the shrubs to furnish the ground should be carefully considered and planted first; then those to furnish or renew another clump, perhaps of a different nature, could be planted amongst them to be eventually transferred to their permanent places. In a few years by this method fresh groups can be formed or old ones renewed, and they will look almost furnished at once. Between all the main trees, *Berberis Aquifolia*, *Rhododendron ponticum*, Box or any other similar shrubs may be employed.

There are many evergreens that lend themselves well to systems of renovation, however drawn and crowded they may be. These are the various forms of common Laurel, the Portugal, Hollies, *Rhododendrons*, and Yews amongst others, while most of the flowering deciduous shrubs, such as Lilacs, *Spiræas*, and others can soon be brought within bounds. The first thing necessary is to remove any top growth there may be, so that light can reach the plants below. Yews and Hollies will stand very hard cutting back, and if they have light they soon become refurnished, and grow afterwards with luxuriance.

In pruning Laurels, Portugal or common, or even *Rhododendrons*, no half measures must be employed. We have in the past followed a method of half cutting over, but it is only a waste of time, and fresh growths do not start nearly so well. The Laurels are now sawn off close to the ground, and they quickly start up from the base, while *Rhododendrons* are cut over about a foot high. Some thousands of the latter have also been cut close to the ground. We have some Portugal Laurels so treated three years ago that are now perfectly sound specimens furnished to the ground. We had always been led to believe that the cutting down close to the ground of shrubs of this nature meant almost certain destruction, but after personal experience we find, as noted above, that such a method of treatment instead of being detrimental is conducive to the best ultimate results.

One thing to be avoided in this practice is not to do it at a time when the shrubs will break into growth and not have time to ripen. It may safely be done from September until the end of March, or even a little later. Frost, however severe, appears to do no injury. The deciduous shrubs named may be closely pruned, and in two or three years bushes are produced, larger than could be obtained in the time by planting young stock.—WM. BARDNEY.

EXHAUSTED VINES.

ALTHOUGH I have been in the profession from a boy, "my father being a gardener," served five years' apprenticeship at Lamport Hall, Northants, and lived in several large establishments since my term of apprenticeship expired, and have been a constant reader of the Journal and other first-class horticultural papers, yet I have never before attempted to contribute a note or article of any kind to any horticultural paper whatever; but some years ago, finding myself in a seemingly similar position with regard to old Vines that a young gardener (page 60, January 16th) appears to be in, and taking advantage of the invitation given by the Editor, I resolved to try and give my experience with exhausted Vines, method of treatment and results.

Some twelve years ago it fell to my lot to take charge of a garden on a gentleman's estate on the borders of Yorkshire, where I had two good vineries, each 12 yards long by 5 yards wide. The early vinery contained two large Black Hamburgh Vines with stems as thick as one's arm, each Vine having five rods. The border in which they grew occupied the whole width and length of the house, and was a yard in depth. The walk along the back was a trellis laid on the border. How long the Vines had been planted I do not know, but they were there when my predecessor took charge of the gardens over twenty years previously.

The rule was to start this house on New Year's Day, so when I took charge on the 14th of February it was in full going order. The Vines broke moderately strong and produced fair bunches of fruit, but the leaves were small, most of them not bigger than my hand. I examined the border and found that it had a very poverty stricken appearance, but having access to a good liquid manure tank, I dosed them liberally from that, which mode of treatment they seemed to enjoy, for they grew stronger, and carried fair sized bunches of fruit; but as they reached their ripening period I noticed the stems of first one bunch and then another turn brown and begin to shrivel, so much so that by the time they had finished ripening the crop was reduced by more than half. A few berries at the top of some of the bunches were extra large and well coloured, whilst the majority remained red and developed a flavour closely resembling vinegar.

I proposed turning them out by degrees and filling the house with young Vines. With this end in view I raised some from eyes, but my employer refused to allow me to plant them, saying he could not have those old Vines done away with. I could do what else I liked with them, but must not destroy them by any means. My only expedient then was to try and renovate them. This he readily agreed to. Accordingly I collected and stacked into a heap the best turf I could find cut from an upland pasture. I also secured a quantity of old mortar, bones and leaf mould. During the month of November we cleared out the old border nearly a yard deep, so that all the roots, and they were rather numerous and in "fair condition," were now at liberty. Six inches of rubble was then placed on the bottom for drainage, and covered grass side downwards with good turves cut for the purpose. Filling up followed; the soil from the heap being chopped and well incorporated with the lime rubble, leaf mould and bones. As the soil of that neighbourhood is of a heavy retentive nature, these ingredients were used rather freely. As the work proceeded the roots were carefully laid in the new soil and the new border was completed, the Vines, glass and woodwork were washed, the back and front walls of the house whitewashed and all put in order ready for another start.

Instead of starting the Vines on New Year's Day as at other times, I kept them quite cool throughout the month of January, but by the middle of February, and no doubt in obedience to the long course of early forcing to which they had been subjected, their buds were fairly active, which necessitated the application of more heat. They made short growth that season, some of the shoots being very weak, and a few vanished altogether under the warm sun. The bunches of fruit were small and some of them withered away, yet I managed to secure a light crop. As the growth advanced I found it necessary to maintain a humid atmosphere and to use the syringe freely three or four times daily during bright weather, for they flagged a good deal from March to May and through May on very warm days.

The following year the Vines made good growths with leaves more than twice the size of those of former years, but my ambition did not allow me to rest satisfied with renovation of the roots only, it extended to branches also. Accordingly I trained up two young canes from each Vine each year, till the house was filled from end to end with young bearing wood. The result was highly satisfactory both to my employer and myself. It happened that the family were away from home three seasons, when my wife and I were left in charge of the Hall, everything in the shape of garden produce

being sold. I found that the produce of my renovated vinery made each year the handsome sum of over £10. The Grapes were sent to a large fruiterer's in Bradford, and well do I remember on one occasion, after sending my last lot for that season, receiving a notice from my consignee, "Please send at once 20 lbs. of Black Hamburghs, nicely coloured, as they are required for the execution of a special order just received." Of course I had to reply, "Very sorry, I sent you the last on Tuesday."

The year before I left we got to their roots again, cleared off the surface soil as well as we could without disturbing many roots, for by this time numbers had reached the top, added what fresh soil was necessary, with a good sprinkling of bonemeal and Thomson's Vine manure. I have much faith in this manure, believing that it is one of the best of foods for old and exhausted Vines. A year or more after I left I received a letter from my esteemed mistress, in which she gave a brief description of how the garden was behaving under new management, and concluded by saying "The Grapes are beautiful."

A "Young Gardener" might, if he finds his employer prejudiced against the removal of the Vines under his care, resort to similar means to those I adopted. But the best course to pursue is to plant young ones in a new border about 4 feet wide, adding to it as the roots extend and require more room. I have much more faith in young Vines than in old renovated ones, especially if the house accommodation is such that it admits of planting temporary Vines in a narrow inside border for fruiting till the permanent Vines get established.—W. WEST CHAPMAN.

[With reference to this first attempt at writing for the press we say "Better late than never." The narrative of experience, prompted by the laudable desire to help a younger brother in the craft, is so clear that the routine described cannot easily be misunderstood—no small merit. We like the plain, smooth Saxon, and it satisfies us that a good man was behind the pen. We are very much obliged to him, and he can try again.]

PEAR BEURRÉ PERRON.

THE new Pears that have been worthy of more than a passing notice have of late years been somewhat limited in number, so that one of unusual promise merits attention. Amongst the latter may be placed Beurré Perron, of which the woodcut (fig. 14) is a representation. As may be seen by the illustration, this Pear has a general resemblance to the well known Passe Crasanne, though it is really distinct from it or any other variety. It is handsome in irregular form, but it is said to be very freely produced, and the flavour is certainly good. The colour is bright yellow patched with russet, and with a faint flash of red on the sun side. The stalk is long and fleshy, the eye being partially open and set in a shallow, much-ribbed basin. It was placed before the Fruit Committee of the Royal Horticultural Society at the last Drill Hall meeting by Mr. W. S. Hurlstone, gardener to C. W. Lea, Esq., Parkfield Hallow, Worcester, when it was deservedly adjudged an award of merit.

GARDENERS AND POETRY.

IN the imagery of poetry is to be found so many reflections from our own particular sphere—the garden—that I am induced to think its relationship to us gardeners is not so distant a one as we may, superficially, suppose it to be. Even the most prosaic of gardeners has, possibly, felt some degree of pride in noting that the Laureate's wreath has fallen on one whose writings have revealed him to be strong in the faith—our faith. True, workers may not be ultra-enthusiastic over the disposal of these, or similar honours; but I think in this case a measure of gratification is afforded by the choice that has been made, by the compliment paid to gardening.

Yet it is rather to gardeners than their sphere of work I will endeavour to show the link with poetry. It would be difficult, useless may be said, for even severely practical men to deny poetry a place in the garden, and in this recognition is the connection made with themselves. That we may not, at our starting point, leave an opening for misunderstanding it is as well to use the same key of interpretation. This point of view embraces only the elements of poetry, as they immediately surround us with their influence on our lives.

The apotheosis of poetry is a figure too vast and too cosmopolitan to be shown here, embracing, as it does, all ages, all phases of life, and the highest flights of thought. It is not necessary that our poetry be bound up in volumes, or even resolved from its elements into poems. These may be higher pleasures for men of

gentler mould, but we do want to extract some pleasure from the stores we have as well as the all-absorbing profit, indeed

"No profit grows where is no pleasure taken."

Whether we admit it or not there is, I think, a good deal of poetry in our lives, and more, perhaps, than we are aware of. A man may have very crude ideas on the matter of his own anatomy, but he is no more deficient in his organism than the learned surgeon to whom the hidden parts are very clear.

Should I, not unreasonably, be asked the question from this point of view, "Are we then all poets?" I would answer "Yes." Each according to the degree or appreciative extent of his perceptive faculties. All, save that one man by "the river's brim," and that man I have always pitied, though he could not have been a gardener. It does not disclose the absence of thoughts because they run into any mould, and will not keep shape, for only to the gifted few is it permitted to utter them in appropriate language.

Do we want this poetry in our lives? Yes, all we have or can have; and a cultivation of the faculty of seeing it, of believing in

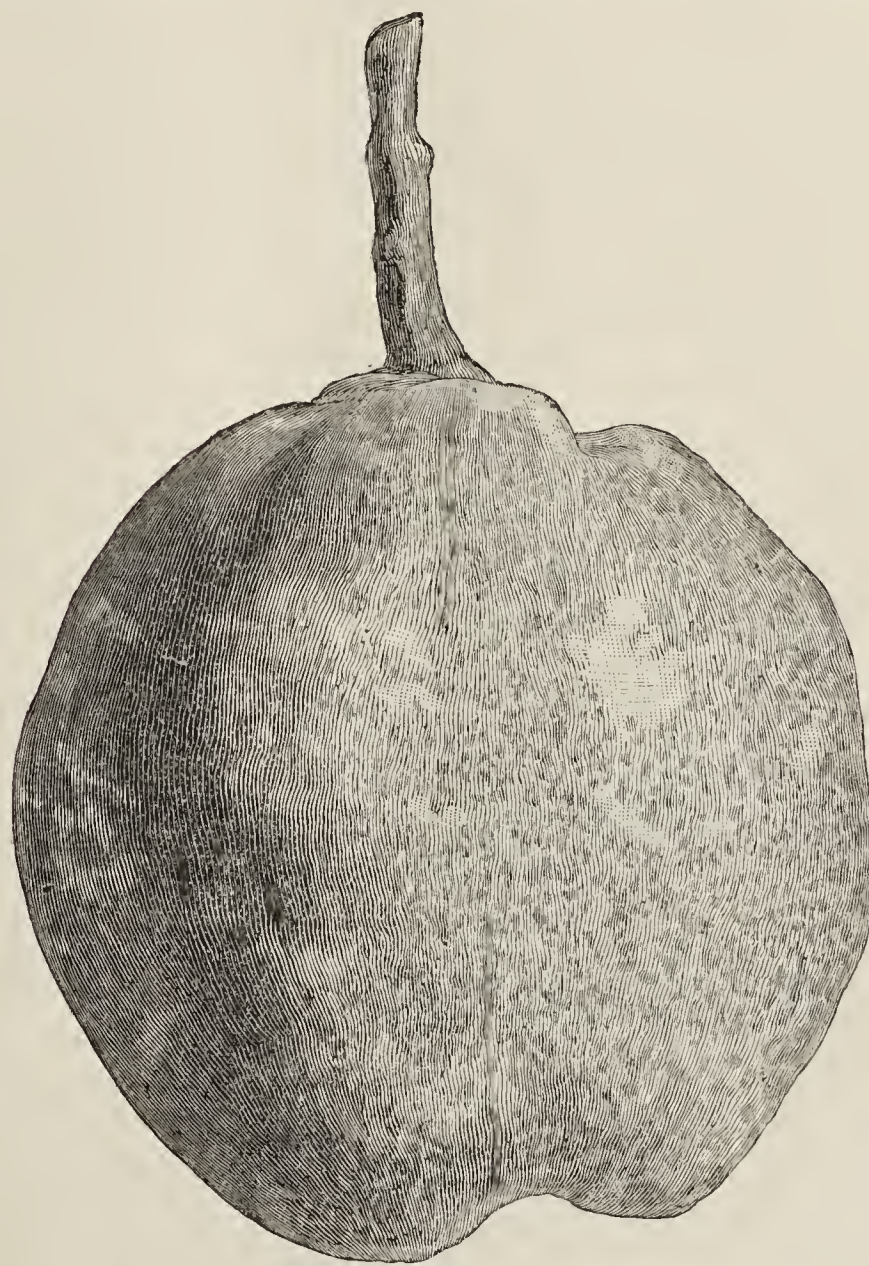


FIG. 14.—PEAR BEURRÉ PERRON.

it, and of developing it, though the power of expressing it is not for us, must act as a lubricant to the grinding wheels of high pressure; it is a tonic under severe toil, and a counter-irritant to small worries which abound. A brother gardener was on one occasion airing a little grievance on the question of pay—only so much per annum. The writer ventured to suggest that the commanding situation of the garden, from whence a noble sweep of sea and mountains filled the eye, was worth at least ten pounds a year more. He smiled, and I thought, "Although his tongue the charge denied, his conscience owned it true." Obviously, neither of us was quite serious, hardly so much perhaps as subsequent reflections would have warranted, for there are many things yet in gardening not ruled by scales of payment or market prices.

A most practical minded man, who invariably measured his crops by pounds, shillings, and pence sterling, would delight in long Sunday rambles o'er moor and mountain, and it was particularly pleasing to me, the occasional companion, to note his appreciation of natural beauty. Pausing now, and again, he would exclaim, "Eh, mon, but it's bonny." Practical, hard-headed Northerner as he was, that poetry had any place in his life he would never

acknowledge, but the man was full of it, and running over with little snatches from his great countryman's verse.

I do not expect that any remarks of mine can do but little more than extract a tacit, perhaps reluctant, acknowledgment that there is poetry in our lives. From now, when Nature gently stirs the modest things in her bosom, and on till she brings forth her abundant riches, again sinking to rest 'mid all the pomp and pageantry of autumn tints, we, her ministers, could not but catch some of the low music from pipes of Pan. We, who live and labour and move amongst so much still life, if dumb, cannot be blind to the pencilled beauty of our flowers, nor deaf to the soft music of a thousand whisperings which rob life of its sternness.

Such are the pleasures of poetry which, with us, breaks not into song. Is there to be found any real, practical profit in its contemplation? I think so, for "beauty is the soul of inspiration." Does it require any far stretch of imagination to see examples of inspired work in our field of labour? I think not. In the highest exposition of natural beauty by the hand of man—such things as constitute perfection—there are soft tones of harmony and lines of beauty pervading it, which is the prerogative of poets to interpret; may I call it poetry? The subject is, to some extent, a contentious one. It should not be so. For once and for all we will call a spade a spade, as it should be called; but what shall we call the work of an inspired hand in relation to gardening? In its bearing on ourselves it appears to me as the stage arrived at by the poet in his art when the term "licensed" is used, a stage where formality and fashion's fetters are thrown off, and those higher, even daring, flights are taken which stamp genius on the work.

Poets are sometimes said to live in a little world of their own, which is somewhere, I suppose, above this practical world of ours. In like manner it may be thought that our parallel is a being who has little in common with his fellow men. The marks of genius may be admitted, but there is some vague suspicion of a bee in the bonnet. He sees things in a different light, does not grumble like other men, and if care should visit him it sits more lightly on his than other brows. There are a hundred little things vexing other men which he meets with a smile, or passes with contempt. Life is one long poem, in which even the elements when at discord are powerless to drown the harmony.

In the most practical part of garden work—the labour part, where we might presume the spirit of our subject never enters—have I noted its presence and its helpfulness. Old Edmund G— did not dig more ground in one day than his mates would do in three. As a fact, there was an enforced equal division of labour as they came down the plot side by side, but there all comparison ended. His was a labour of love, with the others a weary task. His spade was bright as silver; his work could be picked out by its superiority when the day's work was done, and when the great bell pealed out it always seemed to come to him as a surprise, whereas to his mates, *per contra*, it was the long-looked-for come at last. Somehow, too, at the week's end his white jacket was still the whitest after the week's toil. It did one's heart good to look at him, and I feel the better now for having known him, with his rosy face and silvered hair, in the long—long ago. His was the poetry of a labourer's life, and his spade work the poetry of digging.

I can only speak from my own experience, and, of course, from my own views of life, but there seems to flow out from one's pen, as there does from all pens, something of one's own life, too. It is from this I am led to say what I believe to have in some measure proved, that these things are not altogether a question of temperament or of heredity. If they come in this way well and good, it is a very good way to be possessed of them, but to many there comes a stage of existence when the wheels of life jar painfully, when a man looks back over a long stage of the journey with but qualified satisfaction, and is chilled in looking forward into the unknown. Something he wants to cheer him at the present, something to brighten, to make life worth living. — OLD TRAVELLER.

HARDY FLOWER NOTES.

ONCE more have the early flowers begun to leave the kindly shelter of Mother Earth for the uncertain welcome of the air. They seem to have no fear of the coming of frosts which would shrivel their tender growths or blight their beautiful blossoms. It is otherwise, however, with those of us who love their beauty, and, with a vivid recollection of past losses, think fearfully of what may happen. We cannot but think of the contrast of last year and this. This time last year frost reigned supreme, and the garden would have been desolate but for the starving wild birds, which, contrary to their wont, sought their food denied them in their natural haunts by the homes of man. Wet and damp will doubtless leave gaps in the array of flowers, but there are enough

left, and from the earlier blooms we must seek to draw something to write of now.

Sunshine has been remarkably rare for a long time, and this has, perhaps fortunately, to some extent checked the onward movement of the flowers. Quite a number of Crocuses of the various winter-flowering species have been in bud for some time, but few have opened, and consequently some have either withered away or have been broken down by wind or rain. Among the unfortunates has been *C. hyemalis* Foxi, which rarely disappoints me, but has this year had its white flowers soaked and destroyed while still closed. Early flowers of *Crocus Imperati* succeeded, however, in opening for the first time this year on the 11th of January, but since then this *Crocus* had few favourable days for displaying the beautiful lilac-purple colour of the inside of its flowers. It is interesting to observe how some of these *Crocus* species vary in their needs of sunshine. *C. Imperati* and *C. Fleischeri* appear to open here almost simultaneously, while *C. ancyrensis*, *C. aureus*, *C. biflorus*, and several others require a stronger sun to enable them to expand. One need never hesitate to recommend *C. Imperati* as a good winter-flowering species, moderate in price, and of unquestionable beauty and hardiness. Imported corms seem rather variable in size, colour, and time of flowering, and a variety which is considerably later in flowering is occasionally found among them. I am indebted to the Rev. C. Wolley-Dod for bringing this to my notice. I have never succeeded in establishing the white variety of *C. Imperati*, but the handsome one called *C. Imperati longiflorus* is easily established, and is very beautiful.

A bright yellow species, which is ready to open, is *C. gargaricus*, a pretty little gem, not very often seen. The few corms I have were received from Bithynia, having been collected on Mount Olympus, where a higher coloured variety is found than usual. The flowers may properly be called orange, but vary slightly in depth of colouring. In cultivation the corms seem to form a number of small ones, too small to flower, so that I had no flowers last year. The corms are exceptionally small for a *Crocus*, being only from one-third of an inch to barely half inch wide, and have a tunic of closely reticulated fibre. The filament is orange, and the anthers lemon-yellow. It is early in flower this year, and has preceded *C. ærius*, which grows intermingled with it on Mount Olympus. Some varieties of *C. biflorus* are at present in bud, and may be in flower before this appears; but one must delay further remarks on these enticing Crocuses.

The Snowdrop is still, and will be for some time to come, the favourite outdoor flower in bloom. The theme of the poets in the past, and the many improved varieties now being raised will make it more welcome in the garden than before. The species dissimilar to the ordinary *nivalis*, which have also been introduced, will not only give the needed variety for the garden, but will also lend their aid to those who are seeking to improve the flower. As I write, in the third week of January, there are so many in flower that I am at a loss of which to speak now. I may, however, begin by making a few remarks about *Galanthus Ikariæ*. This species, which was introduced by Mr. Edward Whittall of Smyrna from the island of Nikaria, and which has been named *Ikariæ* from the ancient name of the island *Icaria*, has now been long enough in this garden to enable me to confirm the opinion formerly expressed in the Journal. It is quite hardy, and very pleasing from the distinct character of its leaves, which are long, bright green, and arching in their habit. The first bulbs, which I received in 1893, present hardly any difference in growth; but among a few received the following year I observe one with remarkably broad leaves of a deeper and duller green than any of the others. There is also a smaller plant of somewhat similar appearance, which looks as if it would be worth attention. It may perhaps be worth while remarking that the flowers of *G. Ikariæ* are like those of *G. Elwesi*.

Among the Snowdrops which came from our generous Smyrna friend in 1895 were some from Parla Yalassi (wherever that may be) which are greatly attracting my attention. They will not flower this year, so that it is the leaves which induces one to look on them with some curiosity. These are narrow, thin, and green in colour. Judging from these the flower should be small and the leaves bear a great resemblance to those of a Snowdrop from Phænika, Samos, which has not done well here, but which was a poor variety of *Elwesi*. The latter had the usual coloured foliage. *Galanthus caucasicus* has been unusually early this year, but is more prized on account of its broad, handsome leaves than for its flowers, which are small and hardly what one would expect from a plant with such fine foliage.

I fear I must ask our worthy Editor to allow me to devote an article wholly to the tale of this Snowdrop season, but lest the exigencies of space should prevent this I must say a word or two about the earliest of Mr. Allen's fine seedlings to flower here this year. This is a seedling of the fine variety of *nivalis* known as *Melvillei*, in honour of Mr. Melville of Dunrobin Castle Gardens,

and is named Aurora. It is a very handsome variety of rather dwarf habit, but with large and perfectly formed flowers. I am sorry to say the Snowdrop disease has again made its appearance among some bulbs of *G. nivalis* which were collected in a wood in the locality, and among some *G. byzantinus* imported from Bithynia about three years ago. I am dusting about the plants with flowers of sulphur to see if that will prevent it from spreading. This annoying and destructive disease did not appear in my garden until about three years ago, and fortunately is as yet confined to two small areas.

The little Winter Aconite, *Eranthis hyemalis*, has once more appeared with its bright green leaves and yellow flowers. Common and cheap as it is it is ever looked for with pleasure, and prized for its bright colour in the early days of the year. *E. cilicicus* will not be much later this year than *E. hyemalis*. *Hyacinthus azureus* or *Muscari azureum* is showing its pretty blue colour, and will soon be in full beauty, when I hope to return to it, and say a little more concerning it than I have hitherto done.

None of the Scillas is as yet showing flower, but *S. bifolia* Whittalli and two or three other varieties of *bifolia* are coming on rapidly, and should soon be in bloom. I had expected to have a few stray *Hepatica* flowers ere this, but they still delay. A white seedling of my own raising is almost ready to open, however, and as it is its first flower I am waiting anxiously for a sight of its bloom.

No Daffodils are yet in bloom, but several have the bud visible, and *N. minor*, *N. minimus*, and *N. pallidus præcox* should not be long. A considerable number of Primroses are in bloom, and the yellow forms of these with *Jasminum nudiflorum* on the walls, and the several yellow Crocuses, such as *C. aureus*, *C. gargaricus*, and *C. ancyrensis* help to lighten up the garden, and to give a change from the 'pure snowy whiteness' of the Snowdrops. *Saxifraga apiculata* has just begun to open its primrose coloured flowers, and very soon quite a galaxy of gems will adorn the slopes of the rock garden and the beds and borders. Meanwhile we need not weary, finding daily some fresh beauty in the flowers in bloom, or seeing the progress of the others which shall follow with their bright, yet delicate loveliness.—S. ARNOTT.

FLORAL FACTS AND FANCIES.—16.

OUR greatest of dramatists has, in a familiar passage, connected the work of the Samphire gatherer with the lofty cliffs of Dover, and for centuries this plant was obtained at much risk; there, and in other places, it seems to have been thought more valuable because of the peril occurred. From the narrow escapes of life and limb through which its hunters had to pass the Samphire might well be a symbol of "danger." Its greenish flowers open in August; but it has vanished from many places where once it was common. The pickle was very highly esteemed for its aromatic, pungent flavour; the plant was also eaten uncooked. Attempts were made sometimes to sell for Samphire the Jointed Glasswort (*Salicornia* sp.), a species more accessible on the coast, yet in flavour quite different. Evidently the name of Samphire comes from a French word, which connects the plant with St. Peter. It would have been a good thing had our worthy ancestors tried to cultivate this plant upon rocks or cliffs within easy reach, so as to have a supply at hand, but the idea did not occur to them.

There was less difficulty in obtaining the Tamarisk, which, though it has been called the Sea Cypress, is not a mournful plant, for the feathery foliage on its red stem, and clustering pinkish flowers, are pleasant to see. Still, it is a reminder of "crime," because the ancient Romans disliked the plant, and they were accustomed to place a wreath of Tamarisk round the head of an offender. This did not influence its repute during the Middle Ages, when it was esteemed as a bitter and astringent, being probably brought over here from France or Spain, some state by Archbishop Grindal. One might naturally suppose there is some connection between "Tamarisk" and "Tamarind," but the former appears to have had its origin in the name of a Spanish river, upon which the plant grew abundantly, and the latter comes from an Arab word meaning the "Indian Date."

Even in winter the Sea Cabbage attracts notice, exhibiting some richly tinted leaves on the lofty heights where it flourishes, and during the summer its long stalks of yellow flowers are very conspicuous. It reminds us of an old belief, that there was such an antipathy between this plant and the Vine, that if placed near one growing any Vine would speedily die; also, we think of the singular fact, for fact it is, that the Romans had a sort of admiration or reverence for the Cabbage, even as the Egyptians held the Onion in honour, though the Cabbage and sentiment do not seem to be allied. Indeed, one author remarks that they must surely have known the Cauliflower, or they would not have felt this enthusiasm

about any kind of Brassica, but it is thought the first of these was produced in Cyprus, not till about the twelfth century.

A shrubby plant fond of inland hills, and also of dry heaths, the Whortleberry or Bilberry (*Vaccinium Myrtillus*) suggests "treason," by its pink drooping bells, for, as the Latin name tells, it was into this little shrub *Myrtillus* was changed as a punishment for his treachery. He was, so says the story, charioteer to *Ænomaus*, who lost his daughter, his kingdom, and life because he was beaten in a race with *Pelops*, who bribed *Myrtillus* to remove the pin from one of the chariot wheels. Though all the species in the genus have a name associating them with cows, the red-fruited *V. Vitis Idæa* is specially the Cowberry if for no particular reason. In North Europe the people utilise this species by setting it for garden edgings, as the leaves are evergreen, and it flourishes quite equal to Box when well trimmed.

Another historic plant, however, might well have been named after cows, since by feeding upon it upon northern pastures they convey its flavour to milk, butter, and cheese. It is akin to our garden Fennel, like that aromatic; folks call it Spignel, or in the Highlands Bald-money, in science *Meum athamanticum*. The finely cut hair-like leaves and yellow flower heads have been worn as a token of "courage," for one name links it to the Scandinavian hero, Balder of old. The Fennel, also, which we nowadays think of chiefly in connection with salmon and garnishing dishes, has had its higher value in the past as a plant significant of "strength" or "victory," and, besides, it was believed that a decoction of the flowers would restore the sight when it was failing. One of our poets says of the Fennel—

"It gave new strength and daring mood,
And gladiators fierce and rude
Mingled it in their daily food.
And he who battled and subdued
A wreath of Fennel wore."

Even during the days of the Tudors and Stuarts the ladies of our land wore its leaves in their hair, or placed its flowers in the posies they carried. Some of the umbelliferous plants appear green and flourishing through the winter, and one of these that we notice, from its spreading mode of growth, is the Alexanders (*Smyrniolum Olusatrum*), most frequent on rough ground near the sea, but occurring sometimes elsewhere. Upon the supposition that its old name bears reference to the greatest of Alexanders, the plant has been taken to signify "hope," because the conqueror of the world, before he entered upon his great enterprises, renounced everything but hope. The meaning of another name, "Stand-marche," is not so intelligible. This was a plant that gardeners cultivated during the Middle Ages and later, hence it even now frequently occurs upon ground near the site of some old mansion or castle. When Celery was unknown the leaves and shoots of Alexanders were commonly boiled in soups, though they made the liquid blackish, and the pungency would require a strong palate to bear its flavour. Many of our Kentish folk can remember that on the arrival of the Princess of Wales bunches of Alexanders were put with the white favours worn in her honour by some of the people along the coast.

Much perplexity has arisen from the uncertainty as to which of the species called Purslane that name strictly belongs. We might know better if we had the exact meaning of the word. Probably it refers to something purse-like in a plant, but some have thought it contains an allusion to a pig! Of course the garden Purslane, of the Portulacaceae order, has a good claim to the title; a plant brought from South America about 1652, little esteemed or grown now, but at one time cultivated to use in salads and pickles. Several African species of the tribe, also succulent, with blue or scarlet flowers, are to be seen in conservatories; and we have a small native species (*Montia fontana*), formerly not uncommon in little brooks near London, which has white flowers, and is the Water Purslane or "Blinks." A plant still less in size, of another family, that occurs in shallow water occasionally, having red stems and broad glossy leaves, has the same English name—this is *Peptis portula*; and yet another species, allied to the Sandworts, is called the Sea Purslane (*Honkneya peploides*). It has a very curious arrangement of leaves, which spring from the stem in four distinct rows, and when the plant is vigorous they are of a bright green, glossy, and thick. Some believe this was the original Purslane of our ancestors.

One of spring's pioneers, yet a species that is seen in flower somewhere or other all through the year, is the common Dandelion; apparently it is in some districts a weed even more abundant than it used to be. Objectionable upon cultivated ground, it is undoubtedly wholesome food for sheep, horses, and other quadrupeds. The flower means an "oracle," because, like the Hawkweeds and others of the Composite order, it is employed in divination, by blowing off the feathery seeds people have sought

for indications as to the time of the day, the approach of a change of weather, and on various matters. The golden-starred Coltsfoot, already showing its flowers, which precede the leaves, is representative of "justice;" why is not clear, though several of its names connecting it with the horse and the bull are explained by the form of its leaves. Then the Groundsel, which is now appearing, tells of "attachment," since it follows man everywhere.—J. R. S. C.



A FRENCH NATIONAL ROSE SOCIETY.

ACCORDING to the "Revue Horticole" a French National Rose Society has been established at Lyons. The Society proposes to form a judicial committee to (1) examine, adjudge, and class the varieties of Roses; (2) to hold exhibitions and congresses in various French towns; (3) to publish information relating to Roses; (4) to furnish discriminating notes on novelties for the benefit of amateurs; and (5) to determine the nomenclature and synonymy of Roses. The Secretary is M. Viviani-Morel, 66, Cours Lafayette, à Villeurbanne-les, Lyon. The subscription is 5 francs a year.

MR. E. MAWLEY.

ALL members of the N.R.S. will, I am sure, wish to congratulate Mr. Mawley on his election as President of the Royal Meteorological Society. I do not know that we have any right to view him now as actually being that much abused personage, "the Clerk of the Weather," and I do not think it will be fair to reproach him *much* if 1896 should prove to be a bad Rose year; but if it should be a favourable season let us at all events, in recognition of his past services, give him as much credit for it as we can.—W. R. RAILLEM.

USEFUL GARDEN ROSES.

DURING the last twenty years how fierce have been the conflicts waged in the horticultural press between writers on Roses; drawn together by their love of the national flower. Is it that the "Wars of the Roses" serve as a harmless means of satisfying that dominant spirit of opposition which is inherent in the British race? If so, long may it continue. Some there are who never tire of singing the praises of their giant blooms, large in petal, globular in form, brilliant in colour, and withal of imposing appearance; grand flowers in their way, which exhibitors view with envy, as they lead to triumphs in the tented field. Others profess to see but little beauty in these Goliaths, and much prefer a host of Davids instead. They grow enthusiastic over a garden abounding with a wealth of Roses, where arches and pillars alike are laden with charmingly informal bunches, or with panicles of flowers—flowers that may be cut by the armful, and still leave plenty to lend their sweetness to the air. To me all Roses are beautiful, and worthy of cultivation. We want them all—the large flowers of perfect form to show what high culture can achieve, the smaller ones to smile in plenty, and give variety of form throughout our gardens, some of each to brighten the interior of our homes.

How delightful the summer Roses are, especially those whose single or miniature flowers open in such remarkable profusion. The very fact of their being so short-lived seems to lend to them a more precious beauty. Certain it is that there are but few fairer garden scenes than an arch, pillar, or sturdy bush studded with thousands of these fairy-like flowers. It is gratifying to see the Moss Roses receiving due attention again, for in the bud we have certainly nothing among Roses more charmingly pretty, and this section now includes several acquisitions. Baron de Wessenaer is a favourite hardy variety, extremely bright and pretty in the bud, probably the brightest red we have among Moss Roses. The common Moss is still one of the best. Among those having pale rose coloured flowers Crimson Globe is a somewhat advanced type, the flowers, as the name implies, being of a fine globular form. Gracilis and Little Gem are a pair that should be grown by all; and Reine Blanche and White Bush are, to my mind, the best whites, the former being well adapted for walls or arches, the latter, as its name implies, being suitable for growing in bush form.

Summer Roses supply us with many sterling climbers. There is the well known Blairi No. 2, with its large blush-pink flowers; this blooms magnificently if given a sunny position and allowed ample freedom. The shoots require to be thinly disposed, and but little shortening should be attempted. Chénédolé and Coupe d'Hébé are also fine for affording a variety of colour; the former is light crimson and sweet; the latter deep pink and charming. Too much praise can scarcely be bestowed upon Madame Plantier; it is one of the purest white Roses we have in any section; very sweet, and succeeds well as a bush, climber, or pot Rose. Paul Verdier should be planted by all who like a large bright rose-coloured flower, full, finely imbricated, and suitable for arches and pillars.

Ayrshire Roses are an exceedingly useful and beautiful class; their growth being very strong and rapid, they are adapted for planting in positions when many other varieties would not succeed. Take, for instance, old crumbling walls which one often finds in ancient gardens; ordinary climbing Roses seldom succeed well if planted against these, but the Ayrshires seem perfectly at home. The shoots in the first instance should be trained thinly and securely, and the growths afterwards allowed to ramble at will, with the exception of a slight thinning of the shoots, or the removal of unripened points. Treated in this way each stem becomes a literal wreath of Roses in May or June. Again, we have perhaps a dead tree stump, bare and unsightly; plant against it one of these rambling Roses, and in a year or two thousands of scented blossoms adorn its outline. In another spot perhaps we find a rough wall, or a stony bank rising from the water of lake or river, on the top of the bank plant an Ayrshire Rose; the shoots will soon reach down to the water's edge, and in time their countless clusters of flowers gladden the eyes of all who see them across the glistening stream. Every variety in this section is adapted for the purposes above indicated, but I must call especial attention to Ruga, as I feel sure that the only reason why one so seldom meets with it is that it is so little known. It grows wonderfully strong, the central flowers are large, of a beautiful flesh colour, and the numerous buds clustering around it render the shoots extremely effective for decorative purposes when cut, as well as fairy-like when growing.

Alba Roses and their hybrids are a somewhat small section, but the flowers have exquisite delicacy of colouring. The old Maiden's Blush may be taken as an excellent example of the type, and few can surpass it in hardiness and sweetness. Blanche Belgique is a good white which produces flowers in abundance; Belle de Segur and Celestial are both delightful flesh coloured varieties. Among hybrid climbers we have that grand acquisition Crimson Rambler, which in a short time has become so thoroughly well known, but I need not now sing its praises. Fair Rosamond (flesh colour) and Fortune's Yellow are looking excellent; the latter has semi-double flowers of a peculiar yellowish-orange colour, and is a very strong grower; plants of each of these which I planted last season, have made splendid growth.

Lord Penzance's hybrid Sweet Briars will, I think, prove very attractive for arches, as they are vigorous growers, have peculiar as well as beautiful colours, and their single chaste-looking flowers are at all times welcome. The whole set of nine varieties are so good that I should strongly advise their purchase, and I doubt not that when these are seen in full beauty, the newer ones to be sent out this year will in time be added to the collection. The Austrian Yellow and Austrian Copper are well-known shrubby-growing kinds, which make fine bushes and are particularly adapted for massing.

Autumnal or Perpetual Roses form a very large class, divided into many sections, which include some of the showiest and hardiest varieties of the Autumn Queen. Dwarf varieties of Polyantha Roses are now much used as edgings for large beds, or for filling small ones, the flowers are borne in great profusion, and are admirably adapted for bouquets. A few good varieties are Anne Marie de Montravel (pure white), Blanche Rebatel (crimson shaded rose), Cecile (bright rose, yellow centre), Etoile d'Or (yellow and chrome yellow), Golden Fairy, Little Dot (soft pink), Perle d'Or (nankeen yellow), and Paquerette (white).

The well-known single Japanese Roses, Rugosa and Rugosa alba, are attractive, in summer by reason of their handsome foliage and flowers, and in winter in consequence of their bright red berries. Among Perpetual Moss Roses, Blanche Moreau (white), Eugène de Savoie (bright red), White Moss and Salet (bright rose) are all good. The last-named pair should if possible be grown in quantity. Chinese Roses are again coming to the front, and where cut flowers are in great demand they must prove exceedingly welcome, as they produce some of the earliest flowers amongst Roses and continue to flower when many others are ruined by frost. They also thrive in stony places and in comparatively poor soil. The old white and pink China are both still worth growing, and we have a grand new acquisition in Duke of York. The flowers vary considerably in different soils, from rosy pink and white to deep red and pale pink. It flowers continuously throughout the summer and autumn, and is altogether a delightful Rose of the true Chinese type. Another excellent kind of recent introduction is Madame Eugène Resal. The flowers are a mixture of coppery red and bright rose on an orange ground. Abbé Mioland is quite a novelty, its reddish purple flowers being often streaked with white. Eugène Beauharnais (amaranth), Fabvier (scarlet), and Little Pet (white) rank among the best of the section.

The Bourbons certainly contain some of the most beautiful autumn-flowering Roses. Souvenir de Malmaison is a capital illustration on this point. During the hot days of summer one scarcely ever finds a good bloom of it, but when the cool nights and short days of autumn come few Roses can vie with it in beauty. The climbing form is well worth growing; Acidalie (blush white), Dr. Berthet, Lorna Doone (magenta carmine), Mrs. Bosanquet (pale flesh), and the well-known Sir J. Paxton are all good wall and pillar Roses.

There is so much to be said in favour of Noisette Roses, Hybrid Perpetuals, and Teas that I must defer my remarks about them till another week. A garden of Roses is a fascinating spot; when one begins to write of the charms of each section how difficult it is to stop.—H. D.

[Our correspondent had better keep going till we ask him to stop.]



WEATHER IN LONDON. — The prolonged mildness of the weather in London is causing some considerable amount of comment, and people generally are pining for a little frost, in place of the enervating conditions that now prevail. During the past week there have been occasional showers and fogs, and bright gleams of warm sunshine. On Wednesday morning the air was frosty and clear in the outskirts of the metropolis.

— **ROYAL GARDENERS' ORPHAN FUND.** — The annual general meeting of the subscribers to this Fund will be held at Anderton's Hotel, Fleet Street, London, E.C., on Friday, February 21st next, for the purpose of receiving the report of the Committee and the accounts for the past year, to appoint officers for the ensuing year, and to elect ten children to the benefits of the Fund. The chair will be taken at 2 o'clock. The poll will close at 4 o'clock, after which no votes will be received. The voting papers have all been issued. Any subscriber not having received one is requested to communicate with the Honorary Secretary, A. F. Barron, Chiswick, W.

— **DALTON HORTICULTURAL SOCIETY.** — The eighteenth annual meeting in connection with the above flourishing Society was held in the Nelson Street Board Schools, Dalton, on Saturday evening, the attendance being a most encouraging one. The President, Mr. Thomas Ashburner, of Greystone House, occupied the chair. The Committee's report was presented by the Secretary, and showed that another season's work had been crowned with success. There was a balance in hand amounting to £61 17s. The Society congratulates itself on being in the proud position of winner of Messrs. H. Cannell & Sons' valuable champion sash and £3 prize in cash. This is held for one year, and all comers in Lancashire, Westmoreland, and South Cumberland are challenged to compete for it in the coming season.

— **THE HESSLE GARDENERS' MUTUAL IMPROVEMENT SOCIETY.** — At a meeting of the above Society, held on January 21st, a paper was read by Mr. Johnstone, gardener to George Marshall, Esq., Claremont House, Grimsby, on "The Cultivation of Tuberous Begonias." The essayist described the history of the Begonia from its introduction into this country to the present time. As a bedding plant, he said, it has made rapid progress, and is, indeed, most useful for that purpose, taking the place of the Zonal Pelargonium to a great extent. The culture outside in this district being very limited, he would advise those who have not tried Begonias as bedding plants to do so. Mr. Johnstone gave his mode of culture in a most practical way, from seed sowing to the storing of the tubers.—F. L. T.

— **PEA TRIALS IN SURREY.** — During the ensuing year it is proposed to test, on two descriptions of soil, certain dwarf Peas. In one case, at Richmond, the soil, of a light, porous, and of course non-retentive nature, but having been trenched last year will no doubt, being also well manured and deeply dug, carry fair test crops. The other ground is at Chertsey, and there is a stiff retentive loam. This has not been trenched, but has been well manured and deeply dug. This Chertsey soil is what is usually termed strong, and no doubt will carry good growth. All the twenty varieties of Peas obtained are comparatively dwarf, ranging in height from 2 feet to 3½ feet. Just a few, such as Princess Royal, Prince of Wales, Dr. Maclean, and Omega, all good of their time, are old, as it is desired to compare relative productiveness, size of pod, quality and other features, with some of the best recognised newer ones. Besides the four named, other varieties are Magnum Bonum, Maincrop Marrow, Eureka, Exhibition Marrow, Invincible, Dwarf Defiance, Dwarf Mammoth Marrow, Sensation, The Echo, Consummate, Shropshire Hero, Sharpe's Queen, Chancellor, Promotion, Senator, and Enterprise. Peas of this description, if sown thinly and have ample room, make sturdy branching growth, and stand drought better than do very tall Peas. They are just the things for allotments and cottage gardens, and as both trials will take place on large groups of allotments, all the workers on these can, if they choose, derive much useful information. It is hoped to show that it pays well to secure the best varieties for culture, even if they are rather dearer than are old and less useful ones.

— **GARDENING APPOINTMENT.** — Mr. P. Jakeman, for the past five years general foreman at Somerleyton Hall Gardens, has been appointed head gardener to Richard R. Heap, Esq., Blackmoor, West Derby, Liverpool.

— **ROYAL CALEDONIAN HORTICULTURAL SOCIETY.** — We have received the prize list and rules for the spring and autumn flower shows that will be held under the auspices of this Society in the Waverley Market, Edinburgh, on Wednesday and Thursday, April 8th and 9th, and Wednesday and Thursday, September 9th and 10th. The classes are very numerous, and the prizes in many of them decidedly generous. The Assistant Secretary, Mr. William Young, 18, Waverley Market, Edinburgh, will give any information that may be desired.

— **VEITCH'S GOLDEN QUEEN LETTUCE.** — A correspondent writes—"This variety is wonderfully quick in developing heads, and when grown under forcing conditions, is extremely tender, while the colour is attractive. Last season, from a sowing made on a warm border, March 2nd, we cut heads the third week in May, or in eleven weeks from the time of sowing. The position, however, was favourable for their growth, being on a narrow border immediately in front of a forcing house with a southern aspect."

— **A £50 PRIZE FOR THE BEST FRUIT AND VEGETABLE DRYER.** — Through the Bath and West of England Agricultural Society, which will hold its annual show at St. Albans from May 27th to June 1st next, the proprietors of the "Ironmonger" newspaper, London, offer a prize of £50 for the best machine for fruit and vegetable drying. Full particulars of the competition will be supplied by the Secretary of the Bath and West Society, Mr. T. F. Plowman, 4, Terrace Walk, Bath, and the machines will be tried and judged at the St. Albans show.

— **GIFT OF A NEW PARK FOR WALLASEY.** — Birkenhead can boast of one of the finest parks in the kingdom, and now another gift has been made to the Cheshire side of the Mersey by Messrs. F. J. and H. Harrison, offering in memory of their father, the late Mr. James Harrison, 50 acres of the sand hills lying between the road leading from Wallasey village to the shore, to be used as a public park or recreation ground for the benefit of the inhabitants of Wallasey. At a largely attended meeting of ratepayers held in the Public Offices, Wallasey, on Thursday evening, Mr. R. Steel, presiding, Mr. Peers moved the following resolution:—"That this meeting accept the gift of Messrs. F. J. and H. Harrison to be set apart for a park and recreation ground for the benefit of the district." He said "that when they looked round on their neighbours as Bootle and Birkenhead they found that they had not one single yard of river frontage in those large boroughs, and it would be a fatal mistake if they in Wallasey refused the generous gift that was now offered." After a long discussion the gift was accepted by 88 votes to 10. The Chairman proposed a hearty vote of thanks to Messrs. Harrison for their generous and handsome gift, Mr. E. R. Billington seconding.

— **DEFERRED FRUIT BLOSSOM.** — How often is it asserted that the checking of early or ordinary development or fruit bloom leads to securing it from frost? Now, our fruit-blooming season ranges on south walls from early in March to the middle of May on Apples. That period covers the whole of what is a most critical time in connection with fruit, because we all know that harm to the bloom never results from the action of intense winter frosts, let them be, as last year, ever so severe, but rather from the effects of white spring frosts, which come at varying intervals during March, April, and May. The point for consideration is, Does experience show that the retarding of any kind of fruit blossom outdoors helps in any way to save the flowers from injury and the crop of fruit to the grower over what results from trees that are allowed to bloom in their ordinary season, and on which no efforts at retardation are expended? If we had springs of so settled a nature that frosts invariably came at certain exact times, retardation, or even the forwarding of bloom might be useful; but it is just as likely that the retarded trees may be affected with sharp white frosts when they bloom as that those blossoming in their natural season may be. I have observed recently a claim set up for Court Pendu Plât as a valuable Apple to grow, because it naturally blooms late; but, then, can anyone aver that this variety fruits more frequently than do others that bloom earlier? If this recommendation be not supported by some practical benefit, then the later blooming of the variety is no recommendation. Certainly Court Pendu Plât never is a very free fruiter. We ought to have clear proof that retardation where possible is beneficial generally to the fertility of fruit bloom, or else the subject should be absolutely dropped as misleading.—FRUITMAN.

— A GARDENER'S CALENDAR.—We have received a copy of a gardener's calendar from the pen of Mons. L. Henry, a well-known French horticulturist. The volume is of handy size, as it will easily go into the coat pocket, and contains much valuable information regarding money, agricultural schools, and practical gardening, of course all in the French language. In addition to this there are large numbers of pages for notes. This little work will prove of much assistance to French gardeners and to French reading ones of other nations. It is published at the offices of "Le Jardin," 167, Boulevard St. Germain, Paris.

— EARLY SOWING.—The open weather and excellent condition of the soil is no doubt tempting to early sowings of various crops. It is as well to remember that a mild January often means a cold late spring; and although it is sincerely hoped the ordinary course may not be followed this year, yet it is just as well not to be in too much haste to perform work that is usually done several weeks later. We cannot yet tell what February and March may bring forth, although indications do not point to severe weather. Still a spell of dull cool weather makes the soil cold, and keeps vegetable life stagnant; that is very harmful indeed to seeds that have begun to germinate, and then have their growth hung up for weeks, because of the low temperature and absence of sunlight. Those will no doubt be wisest who sow at the customary times in the spring.—K. T.

— WAKEFIELD PAXTON SOCIETY.—"The Propagation and Cultivation of British Ferns" was the subject of a lecture by Mr. W. H. Atkinson, Curator of Batley Cemetery, at a recent meeting of this Society. The propagation of Ferns has long been exceedingly obscure, and is even now not generally understood. Mr. Atkinson was able, however, to make the process very clear by the aid of a limelight lantern. The growth of a Fern from the spore to a perfect plant was set forth stage by stage, a very intricate subject being treated in an exceedingly practical way. Mr. Atkinson also dealt with the culture of Ferns, and showed a large number of slides of the best types, and also specimens of new varieties he had himself obtained from spores. The pictures were splendidly exhibited by Mr. Harold Parkin. Mr. J. G. Brown presided over a good attendance of members, and Mr. Eastwood (Stanley) was Vice-Chairman.

— READING AND DISTRICT GARDENERS' IMPROVEMENT ASSOCIATION.—While preparing for press we learn that the first of the series of meetings for the new year was held in the Abbey Hall on Monday, the 27th inst., when the newly elected President, Mr. Arthur Warwick Sutton, kindly invited the members and their wives to a substantial tea at six o'clock, the party numbering 170. The tables were beautifully and tastefully decorated with plants. Amongst those present at the tea and entertainment were Mr. and Mrs. A. W. Sutton, Mr. Leonard Sutton, Mr. Hubert Sutton, Mr. Neve, the Chairman of the Association; Mr. Burton, Vice-Chairman; Mr. J. Pound, jun., Hon. Secretary; Messrs. Martin, Woolford, Bowie, Outram, Turton, Dockerill; R. Webb, Beenham; Townsend, Wellington College; Williamson, Wokingham; Wise, Blackwater; Dearlove, Burghfield; Barefoot, Mortimer; Johnson and Hatt, Englefield; Osborne, Sonning; Burton, Bexley Heath, and a delightful evening was spent.

— WHY ARE SOME FLOWERS ALTOGETHER BARREN?—In replying to this question a correspondent of "Pearson's Weekly" says:—"At the outset a distinction must be made between flowers which are sterile when insects are excluded, and those which are incapable of fertilisation with their own pollen, or self-sterile as Darwin terms them. In the former case sterility is merely due to the fact that the pollen is prevented from reaching the stigma, or that the pollen and the stigma mature at different times. In the latter class there are a number of plants that are sterile even where insects are given every opportunity of fertilising them. This is the case with five species of Passiflora, several species of Verbascum, and a large number of Brazilian Orchids. In the last instance it was found that the pollen was often actually poisonous to the plant. But the examination is not yet complete, as the fact of self-sterility cannot be proved except by protecting the plant from insects, and then fertilising it by pollen of other plants and by its own pollen. It is, however, ascertained that the phenomenon is found at random throughout the whole vegetable kingdom. The causes of it are due to environment. Plants self-sterile in Brazil become fertile in England; plants sterile in spring become fertile later in the season. Darwin concluded from this that some degree of differentiation in the productive system is necessary for the full fertility of plants. Self-sterility must be regarded, then, as an incidental result, dependent on the conditions to which plants have been subjected, such as excess of heat, manure, moisture, and the like."

— COST OF MANURE IN FRUIT CULTURE.—"E. L." writes:—"A correspondent has planted fifteen acres of Apples, Cob Nuts, and Black Currants. This is a plantation in the preparation of which it is customary to apply as much as fifty tons of London manure per acre in those parts of Kent where fruit is grown largely within fifteen or twenty miles of London. This, at the rate of 5s. 6d. per ton, gives the formidable item of £13 10s. per acre for manure alone. We avoid much of this by using no manure before the planting, and applying a dressing of chemical manures composed of two parts nitrate of soda, one part muriate of potash, five parts superphosphate of lime, in the spring, at the rate of about 5 cwt. per acre, at a total cost of 40s. per acre. We have used chemical manures for this purpose with invariable success, the growth of the trees and fruit being alike satisfactory through annual spring dressings."

— RAISING GARDEN PRODUCE.—According to an Indian contemporary this is an agreeable, gentlemanly, and honourable occupation to which some educated youths of the Buardra class in Bengal may betake themselves, not only without any fear of being lowered in their status, but also with every expectation to eke out a decent income. In the Patna district especially raising garden produce is a profitable occupation. The Commissioner of the Patna division, in his last annual report, quotes the following remarks of the Officiating Collector of Patna on the cultivators of this class, living on the outskirts of the city of Patna:—"A large cultivating class live on the outskirts of the city and make a comfortable living by raising garden produce, including large quantities of Potatoes, Onions, Garlic, Cauliflowers, and other vegetables, many of which are exported to Calcutta and other parts of Lower and Western Bengal. The class are generally well-to-do, as this has little fear of loss either from drought or inundation."

— THE LATENT LIFE OF SEEDS.—This has been investigated by M. C. de Candolle, and he has come to the conclusion that in their latent life seeds pass through a period of suspended animation (*vie valentie*), in which all the functions of the protoplasm are quiescent, but from which they revive when again placed in conditions suitable for germination. This period of suspended animation may extend over an indefinite time, probably through a long series of years, and the seeds may during this period be subjected to a very low temperature without losing their vitality. In the case of Wheat, Oat, and Fennel, the temperature was reduced as low as -30° C., and the experiment was repeated as many as 118 times on the same seeds without injurious effects; the greater number of the seeds of the Sensitive Plant, however, succumbed to this temperature, and nearly all those of *Lobelia erinus*. The immunity from injury appears, says a contemporary, to depend on the protoplasm of the seed passing into a completely inert state, incapable of either respiring or assimilating before it is placed under the unfavourable conditions.

— LIVERPOOL HORTICULTURAL ASSOCIATION.—The best attendance seen for years assembled in the Free Library on Saturday evening, Mr. J. White presiding, at the annual meeting. The Committee, in presenting its seventeenth annual report, for the year 1895, regrets that the amount of funds in hand have been somewhat reduced when compared with 1894, no doubt owing to three shows being held in 1895 against two in 1894, and the fact that on the first day of the summer show the rain came down in torrents. The best thanks of the Committee are again tendered to the trade for their handsome exhibits; also to the several firms for special prizes. A satisfactory sign is the increasing attendance at the monthly meetings, doubtless due to the many excellent papers that have been read from time to time. In order to encourage young gardeners prizes of 21s. and 10s. 6d. are offered for the best essay on "The Selection and Cultivation of Plants Most Suitable for House Decoration." After calm and careful discussion it was decided, by an overwhelming majority, to give two shows as in 1894, omitting the summer show for one year, and giving grand spring and autumn shows, both of which will be held in St. George's Hall. The Right Hon. the Earl of Derby was elected President; R. P. Houston, Esq., M.P., J. S. Gilliatt, Esq., M.P., and H. Wade Deacon, Esq., Vice-Presidents; W. Fletcher Rogers, Esq., Hon. Treasurer; Messrs. Thos. White, Chairman; George Blackmore, Sub-Treasurer; Steers and Waterman, Auditors; Ferguson, Ransom and Wilson on the Committee; with W. Dickson, Chartered Accountant, Victoria Street, Liverpool, Secretary. Subscriptions amounted to £492 16s. 6d. Balance in the bank and with the Sub-Treasurers, £58 17s. 10d. Sums of 2 and 3 guineas respectively were voted to the Gardeners' Royal Benevolent Association and the Royal Gardeners' Orphan Fund. The usual votes of thanks closed the meeting.

— **CAPE FRUIT.**—A Southampton paper reports the arrival at that port from the Cape of a consignment of some 1200 boxes of Apricots. Much of the fruit was small, but it arrived in good condition. Each Apricot, we learn, was wrapped in tissue paper, and was further securely packed with wood wool and cork dust. The best samples realised 5s. per box, or about a penny each. What these fruits fetched ultimately will probably not be known, but those who know how worthless either in flavour or succulence are Apricots at home gathered a couple of weeks before being ripe, know full well also that these Cape Apricots, gathered whilst yet comparatively hard, must when purchased be flavourless stuff indeed. Remembering what a large amount of labour has to be expended in the packing, as also costly material, it is difficult to see how the port price over here can repay the consigners.—R. R.

— **POISONOUS GARDEN COMPOUNDS.**—The proceedings recently instituted against seedsmen or other dealers in horticultural sundries, for selling weed-killers, has almost reached a stage of ridicule. No one supposes that weed-killers and insecticides are less harmful if sold by a chemist than if sold by any ordinary dealer. Whatsoever danger there is rests with the user of the article, and not with the vendor. There seems to be some professional jealousy at the bottom of these prosecutions, chemists evidently regarding with disfavour any sale of compounds that contain poisons by other than members of their own body. It is difficult to say where the demand for the sole sale of useful garden compounds may stop, or what an ordinary dealer is legally entitled to sell. The object of the Act of Parliament is no doubt a good one, but it is too absurd to suppose that weed-killers sold by a chemist are less dangerous than if sold by anyone else. Gardeners are being materially hampered in their use of these valuable compounds by recent action.—D.

— **SCHIZOSTYLIS COCCINEA.**—Many plants of the Iris family are useful for winter-flowering, and among these none is more graceful and floriferous than this bright and showy African plant, often called the Crimson Flag. In habit of growth it resembles many kinds of Iris, the leaves being long, narrowly sword-shaped or almost linear, equitant, springing from a fleshy rhizome. The time of flowering is from October until after Christmas, the flowers remaining in perfection a considerable time. It flourishes out of doors in England, but says the "Garden and Forest," as it is of little importance in America, except for indoor use, it should be grown chiefly for this purpose in pots or for cut flowers. Late in spring or early summer the plants should be divided, from three to five buds being left on each root. These should be planted out in a bed of loose humus-rich soil 6 to 8 inches apart. During the summer, when dry weather is prevalent, the bed should be occasionally soaked, so as to insure a robust growth. In the autumn the plants may be lifted, cleaned and potted for winter use. They should be kept in a sunny position in a cool greenhouse, where they will flower without forcing, some coming earlier, other later, thus giving a succession of flowers for months. After flowering the plant may be left in the pots and stowed away in a frame or cool greenhouse until the time comes to divide them and plant out of doors for the next winter's use.

— **CHEMICAL MANURES.**—Schoolmasters in Surrey who take horticulture as a subject in their evening schools with the elder boys, like to have in their schools museum samples of mineral or chemical manures for reference and example. These manures are obligingly furnished for such purpose by some of the leading manufacturers and dealers. The great value of these samples is that they familiarise lads with their nature whilst yet in a teachable frame of mind. Older persons, whose minds have got into a settled groove, and usually a narrow one, find it very difficult indeed to understand how such queer-looking substances as potash, nitrate, basic slag, or bone flour can have any nutritive properties for plants. Lads, on the other hand, like to learn about their nature, origin, and capacity to fertilise, and in that way scruple not to employ them as manures intelligently if the chance offers. That is great gain. If elder persons, ignorant of the properties of these compounds, have no faith in them, their intelligent use cannot be looked for; for animal manures, even in the most wantonly exhausted and wasted state, they regard with veneration, simply because these are of traditional employment, and yet there is no form of manure usually so very unintelligently applied to land as are these animal manures. When utilised in such way as to preserve their nutritive properties to the utmost, they are without doubt the most valuable of fertilisers. Still we cannot have these in such abundance as to dispense with mineral compounds. These, too, when of proper strength and carefully employed, are of the utmost value in feeding crops.—A. D.

— **THE CARNATION IN AMERICA.**—The Carnation has since the year 1860 rapidly forced itself into an important place in the flower trade of the northern and central parts of America. So great is the demand for this charming flower that nearly 4000 florists in America are engaged either wholly or in part in growing this plant for the supply of cut flowers. It is estimated that fully 200,000,000 Carnation blooms are sold yearly, producing to the growers over 1,000,000 dollars. The characteristics of the Carnation which make it such a decided favourite are its great variety of colour, delightful fragrance, beauty of form, and excellent keeping quality.

— **THE CONVICTION OF FERN GATHERERS.**—At Totnes recently there were convictions of Fern gatherers. This is specially worthy of note, as showing that under the existing laws it is possible to impose some check upon wholesale collectors of Ferns and other British plants. According to the report of the case two men were charged under a warrant before the Totnes County Bench with damaging Devonshire hedges. The evidence went to show that they were engaged with a horse and cart in the wholesale removal of Ferns, and that about 5 cwt. of roots were found in an outhouse. Previous convictions were recorded, and the Bench fined one £5 and the other 50s., together with the amount of the damage. The money not being forthcoming, they were sentenced to six weeks' and one month's imprisonment respectively, with hard labour.

— **CAULIFLOWERS.**—What a tribute is paid to the mildness of the season when it is possible to obtain small yet really fresh, sweet Cauliflower heads at 1d. each from the greengrocers. This, too, at the end of January is remarkable because so late. I do not write of Broccoli, but of evidently late planted Autumn Giant Cauliflowers, for the softness of the stems and character of leaf testify they are of this more tender Brassica section. No doubt something is due to the nature of the summer, as plants could not be got out into the fields until very late, indeed in many cases seeds barely germinated until late in the season, and naturally the plants, if put out at all, could only be late. Thus the winter's mildness has enabled all such late plantings to head in admirably. Prices of green stuffs no doubt are low, but the abundance unharmed compensates somewhat.—PRACTICE.

— **ASPARAGUS FOR DECORATION.**—I can speak in the highest praise of Asparagus for winter decoration, as I find it will mix and look well with any kind of everlasting flowers, giving a lightness and tone of colour not easily obtained. For a large vase I would recommend "A. D." (page 52) and others to mix some long sprays of the berried Asparagus with the silvery seed pods of Honesty, and they will have a decoration that will look well for months in any room or hall. On January 18th I saw a large vase and two smaller ones filled with the Asparagus cut about the end of August last, looking very little the worse. The best time to cut the Asparagus I find is when the grass commences to change colour, which varies from the middle of August to the same time in September, according to the weather. From a marketable point of view I do not think it would prove profitable, as it is difficult to pack, and the slightest injury to the berries turns them black, which spoils them for decoration and sale. The best way to remove dust is to give them a sharp puff with a pair of bellows. If the sprays are not wanted for use immediately when cut it is a good plan to tie them in bundles, place a piece of tiffany round them, and hang up till wanted.—G. H.

— **LEOMINSTER HORTICULTURAL SOCIETY.**—The annual meeting of this Society was held at the Town Hall, Leominster, on Friday last, and those present included Messrs. J. A. Daggs, F. G. Saxby, R. Morrow, F. G. Lulman, H. L. Saxby, T. Bannister, C. A. Saxby, A. J. Hewitt, G. Chatham, C. Edwards, F. Bradford, W. J. Geaussent, and W. H. Phillips, Hon. Secretary and Treasurer. Mr. J. A. Daggs was voted to the chair. Mr. W. H. Phillips presented a financial statement for the past year. The total income amounted to £57 3s. 11½d., including subscriptions £40 19s. 6d., and the expenditure was £57 3s. 5d., the principal item, of course, being that for prizes at the annual show, amounting to £34 5s.; there was thus a balance in hand of 6½d. The meeting then proceeded to the election of officers for the ensuing year. The Committee elected will consist of Messrs. C. D. Andrews, T. Bannister, R. E. Bateman, G. Chatham, J. A. Daggs, W. E. Hyde, J. G. Lulman, R. Morrow, G. Page, G. T. Preston Robinson, C. A. Saxby, C. H. Gardiner, and E. Molyneux. The election of President was left in the hands of the Committee. The Chairman proposed the re-election of Mr. W. H. Phillips as Secretary and Treasurer, expressing the indebtedness of the Society to his successful work during the past year, and this proposition, seconded by Mr. R. Morrow, was very heartily agreed to.



PHAIO-CALANTHE SEDENI ALBIFLORA.

THE results of crossing Phaius and Calanthe are now becoming fairly numerous, and the majority of them are of much beauty. Labouring on behalf of Messrs. J. Veitch & Sons, Royal Exotic Nursery, Chelsea, Mr. Seden has been extremely successful in the delicate operation of cross fertilisation, as the many results of his work amongst Orchids amply testify. One of the latest additions to the many bi-generic hybrids is Phaiocalanthe Sedeni albiflora, which was staged by Messrs. Veitch & Sons at the last meeting of the Royal Horticultural Society at the Drill Hall, and of which the woodcut (fig. 15) is a portrayal. Calanthe Veitchi and Phaius grandifolius were the parents used to secure this result, and evidences of each were clearly perceptible in the specimens exhibited. The prevailing colour is white, the sepals and petals, however, having a tinge of pink at the base. The form of the flower is exceedingly beautiful. The Orchid Committee of the Society deservedly accorded it a first-class certificate.

LES ORCHIDÉES.

SUCH is the title of a small work on Orchids by Mons. L. Duval, who is recognised in France and other countries as an authoritative orchidist. Cultural details are given respecting the Orchids in general cultivation, and as the language is simple it can readily be understood, and the suggestions carried out by growers of even limited experience. The work comprises eighty-two pages, and is profusely illustrated. Not the least useful portion is that devoted to some tabulated pages of Orchids that are reputedly of easy culture. It is a little book that will doubtless be largely read, as also will the admirable preface by Mons. Godefroy-Lebeuf. The book may be procured from the offices of "Le Jardin," 167, Boulevard Saint Germain, Paris, or from the author, 8, Rue de l'Ermitage, Versailles, France.

ANGRÆCUMS.

THIS genus consists of about thirty species, all of them of a distichous habit; some are large growing plants with massive flowers, others are very small, and there are many intermediate forms. The majority are natives of Africa and Madagascar, and are amenable to culture if sufficient heat is at command. The larger habited, strong growing kinds, as *A. eburneum* and its varieties, require either large pots or baskets, the rooting medium consisting of clean, fresh sphagnum moss, with abundance of large rough pieces of charcoal or pottery ballast. The sphagnum should be kept growing all the year round, and although less water is required during the winter months, the plants never need drying off at the roots.

The same material answers well for the lesser growing kinds; but these must be placed in very small baskets suspended close to the glass in the East Indian house. A very light surfacing of the moss is all that is necessary here, the remainder of the depth of the basket being filled with crocks. This latter class of plant is rather more difficult to grow than the larger growing species referred to above, but there is nothing to deter anyone taking up their culture if they are prepared to give them attention. One of the most frequent causes of non-success with them is placing them carelessly in their baskets, in consequence of which they rock about and the roots cannot get hold of the compost.

When first placed in position the base of the plant ought to rest firmly on the bed of crocks, and if the roots are not plentiful enough to hold them in place, a few strands of raffia or bast matting must be run through the rods of the basket and over the surface of the moss. Wire is more lasting, but if the plants do well the roots will by the time the matting has decayed be running well in the moss, and will steady the plants sufficiently. When plants of this description are once established they ought not to be disturbed until they outgrow their baskets or the latter decay, it being quite a simple matter to swill out all the old decayed moss by forcing a jet of water through the syringe. Probably a few of the roots will have decayed, and must be removed. With a little care this is easily accomplished with a pair of Grape-thinning scissors or a long-bladed keen knife.

The plants keep naturally to their annual routine of growth, so there will be no need to remove them at any time from the house wherein they are grown, but a little careful arrangement in autumn is necessary to consolidate the leafy system of the plants, so as to enable them to pass the winter safely. This may easily

be done by suspending them near an unshaded end, or if more convenient by manipulation of the shading only, being careful to bring about the change by hardly perceptible degrees, this being Nature's plan.

Another cause of failure is too low a temperature during winter, plants from so near the Equator not liking less heat than about 60° in any but the coldest weather. The treatment while growing is extremely simple, a regularly moist and high temperature being always maintained, such a one as suits *Aërides*, to which genus they are nearly related. Red spider and scale are the chief insect enemies, but these usually accompany indifferent treatment, and may easily be kept under by ordinary vigilance, frequent sponging until they are quite eradicated being the remedy in each case.

One of the prettiest of the smaller habited kinds is *A. articulatum*, a species with bright green leaves, about 6 inches in length, and flowers, varying in form, borne on graceful racemes. They are creamy white, and last well in good condition; a native of Madagascar as is *A. citratum*, an extremely pretty kind, with pure white flowers arranged in two rows on the raceme. *A. eburneum* is a large grower, often attaining a height of 3 feet, with thick leathery leaves. The spikes issue from the axils of the leaves, and bear a great many large flowers. These have light green sepals and petals, and a large pure white heart-shaped lip. They are deliciously scented, and their long-lasting properties, and the fact that the plant is easily grown and very free flowering, make it a very desirable Orchid where there is room for its full development.

Certainly the best in the genus and the species that has brought it into repute is *A. sesquipedale*, the wonderful long-spurred Madagascar Orchid, introduced by the late Rev. W. Ellis. This is a magnificent winter-flowering kind, that ought to be largely represented in all collections. It requires plenty of heat and moisture the whole year round, and a light sunny position. These are now in flower, and are among the most useful species in the genus; but several other choice and beautiful kinds are included, which I hope to refer to in a future issue.—H. R. R.

MODERN GRAPE GROWING—ESTIMATE OF VARIETIES.

(Continued from page 35.)

IF I am asked which I consider the best of all varieties of Grapes in cultivation I unhesitatingly say Madresfield Court. That this high position would not be universally accorded to it I am aware. As regards flavour many people would prefer a Grape with the Muscat flavour more pronounced, as in Muscat of Alexandria or even Chasselas Musqué, while a few there are who do not like Muscat flavour at all, but prefer the refreshing vinous taste of the best Black Hamburgs.

We know some people prefer a Seckle Pear to a Louise Bonne or a Bon Chrétien; but I question if such persons are possessed of the peculiar refinement of taste necessary to judge fruits. It is the same in regard to perfumes, and the sense of smell and taste are so much related and mixed up that it is difficult to tell where one ends and the other begins. A person who has not a keen discriminating power of smelling is not fit, and never ought to be accepted as an authority on flavour. A Violet, for instance, is a Violet to many people and nothing more; but there are those to whom the scent of the old small Russian and the old-fashioned variety of Neapolitan are delicious, while the scent of some of the larger growing varieties, including The Czar is not even pleasant. But I am wandering. I consider there is such a perfect mixture of the vinous and the Muscat flavours in Madresfield Court as we do not meet with in any other Grape with which I am acquainted.

Muscat of Alexandria, when well finished, is very good if one has just half a dozen berries to eat; but it soon cloy the palate. Madresfield Court would never do so. In appearance, too, Madresfield Court can hold its own. I have never seen its berries quite black when grown to their largest size, but even if they are only brown it must take a high position. A few years ago three bunches, grown by myself and weighing between 4 and 5 lbs. each, were exhibited at Bath, the Crystal Palace, and afterwards at South Kensington. They were not black, but they obtained the first place at all three shows, and I consider that notwithstanding their lack of perfect colour they were the best I have seen. I have since tried to grow some more like them, but have never quite succeeded. Judges are often placed in a difficult position at country shows where there is a class for "any other black," and Madresfield is shown in good condition but not quite black. While Alicante, Alnwick Seedling, Gros Maroc, or other second-class varieties are shown in perfect form. The Judges are fully alive to the fact that more cultural skill is required to produce the Madresfield Court, though it is a little brown; but in most cases they decide as the crowd would do, and award the premier place to the black ones. It is unfortunate that these varieties should ever be in the same classes to compete with each other.

There is no Grape that wasps will attack so soon as Madresfield Court. This is not on account of the thinness of the skin, for Black Hamburg is generally quite as thin; but the Black Hamburgs will be quite safe so long as there is the shadow of a bunch of Madresfield Court

in the house. Although I have expressed such a high opinion of Madresfield Court, I do not advise anyone to grow a large quantity of it for any purpose. It requires skill to grow it well, and when grown it requires more skill to keep it. A Vine or two to produce fruit for home consumption where it is appreciated, or for exhibition, is all very well, but for market purposes an inferior Grape will be more profitable till such time as the taste of the public becomes more cultivated.

Next to Madresfield Court for quality I place Black Hamburg. But it must be black; red, purple, and grizzly Hamburgs will not do. Although I have seen it stated by writers that red Hamburgs are often as good in flavour as the blackest, I must repeat that such persons are not competent judges. You may at a certain stage, perhaps even when the fruit looks at its best, find some amount of acidity in the blackest, while red ones from another house which happens to be a little earlier may be perfectly sweet, and I have observed that sweetness with many people goes for flavour; they do not know the difference. Red Hamburgs never have the delicious vinous flavour so conspicuous in

medium sized, never very large, broadly shouldered; the stalk very thick and fleshy, rather thinly, and often indifferently set. Berries very large, quite round. Skin thin, almost transparent; reddish black, seldom quite black, with a thin bloom. Flesh very tender, melting, juicy, sweet, rich, and pleasantly flavoured, superior to the Black Hamburg.

Of Dutch Hamburg the same author says:—"Berries very large, roundish, inclining to oblate, having an uneven surface, giving them a hammered appearance. Skin thick, black, adhering to the flesh, covered with a dense bloom; very handsome. Flesh firm, often hollow in the centre, coarse and harsh in flavour, excepting when highly ripened, when it is sweet and sugary, but wanting in juiciness."

During the years 1859-60 I had the privilege of working under the direction of my almost lifelong friend, Mr. Barron, amongst the collection of Vines in the great house at Chiswick. Every known European variety under every known name had then been collected and established there. As may be supposed, the number of



FIG. 15.—PHAIO-CALANTHE SEDENI ALBIFLORA.

perfectly coloured fruit; but black ones, on the contrary, though you may catch them on the exhibition table just a little acid, would be certain to have their proper flavour if allowed to hang on the Vines and receive proper treatment till fully ripe.

Unfortunately the Black Hamburg is not now popular, but I imagine its turn will come round again unless someone succeeds in raising a better variety than any at present in existence. It will not travel or keep so well as Alicante or Gros Maroc, consequently when these varieties come in the value of Hamburgs is depreciated; and if consumers prefer the thicker-skinned varieties growers and retailers cannot be blamed for supplying them.

I am rather surprised that considering the demand for large showy berries the old Dutch Hamburg has not again come to the front. True, its quality is inferior, but it has a noble looking berry; and I have no doubt it would please the public at the present day.

Mill Hill Hamburg, which is of the best quality, and has the worst constitution of this class of Grapes, has, I am afraid, gone quite out of cultivation, the Grape which is grown under this name now being quite a different thing, and only a good form of Black Hamburg, otherwise Frankenthal. Mill Hill, as I remember it, has perfectly round berries, with a very thin skin, is very large, and never hammered. Its leaves are of a light shade of green, and rather flabby. Mr. Barron thus correctly describes its fruit in "Vines and Vine Culture":—"Bunches

names greatly exceeded the number of varieties, Black Hamburg especially rejoicing in aliases by the dozen.

After many comparisons and weeding out of names, two distinct types were found to be there, and whatever name they had been received under they were called respectively Black Hamburg and Frankenthal. The latter was the more showy Grape of the two, and the difference was unmistakable; we were able to distinguish the one from the other at a glance. But a new test was to come. Cuttings from Frankenthal and Black Hamburg were taken, and the plants raised from them were put through another trial, when the so-called distinct varieties were found to be identical. The mistake had arisen from the fact that half the Vines at the conservatory had their roots outside, and produced Frankenthals, the other half being confined to a very small piece of border inside, and produced Black Hamburgs. I had left the Society's gardens before the latter part of the experiment was made, but it was reported to me, and it will be found fully recorded in "Vines and Vine Culture."

The true Dutch Hamburg and the true Mill Hill Hamburg bore every test, and remained under all conditions perfectly distinct from each other and from the true Black Hamburg, although there were spurious ones received under each of these names.—WM. TAYLOR.

(To be continued.)



CHRYSANTHEMUM WILLIAM SEWARD.

I QUITE agree with your able correspondent "W. B." on page 77 of the Journal, as to the merits of William Seward. It comes good from any bud, and does well either as a bush plant or cut back. I saw a fine plant last autumn that had been lifted from the open, and which carried nearly 100 good sized blooms. I consider it one of the finest introductions of late years.—H. W. B.

DISQUALIFICATION AT GLASGOW.

RELATIVE to the note on page 10, I desire to inform Messrs. Pearson that I am not connected with the Society, nor do I exhibit or compete; but as a grower of 3000 plants I was careful to search for new varieties. It was when I was so occupied that I was asked how the exhibit was disqualified. The eye alone would have sufficed for the answer, for the back row of blooms on the small board was quite out of line with those on the other two boards, but I measured it carefully. I am not inclined to state what is incorrect, and sign my name to it. As to healthy competition, I do not consider it a healthy sign when nurserymen avoid class 28 (open to nurserymen only), and compete with gardeners and amateurs in class 1. Will Messrs. Pearson be good enough to state what Society requests that show boards be used of the dimensions given on page 10?—W. ELTON.

HIGHGATE CHRYSANTHEMUM SOCIETY.

THE eleventh annual meeting of members of the above Society was held on the 22nd inst., Mr. C. Catling, the President, occupying the chair. Mr. W. E. Boyce, the Secretary, read the annual report, which stated that the exhibition held in November last was exceptionally good. The special prizes offered by the President and Mr. W. Beckett for groups of Chrysanthemums were well contested, and formed one of the leading features of the exhibition. While congratulating the members on the improvement in the financial position of the Society the Committee ventures to suggest to subscribers that by a little effort on their part in making the Society known to their friends its funds might be considerably augmented and its usefulness extended. The Treasurer (Mr. J. McKerchar) then read the financial statement, which showed that the year was commenced with a balance in hand of 6s. 5d. The total amount of receipts for the year being £121 6s. 8d. The chief item of disbursement was £70 8s. for prize money, but after all expenses had been met there remained a balance to the good of 19s. 8½d. The report and statement having been adopted, Mr. McKerchar moved a vote of thanks to the President, who well deserved that tribute to his work. They were sorry he was leaving the chair, because when they reviewed his services they had every reason to be proud of what he had done, and he relinquished office with their best wishes. The election of officers for 1896 was then proceeded with, and the Chairman proposed as President Mr. H. W. Birks, who was elected, and took the chair amid applause. For the posts of Treasurer and Secretary Mr. J. McKerchar and Mr. W. E. Boyce were re-elected, as were also Messrs. G. Atkin and G. W. Smyth as Auditors. The meeting closed with a vote of thanks to the President. The exhibition for the present year is fixed for November 12th and 13th.

EARLY AND SEMI-EARLY FLOWERING CHRYSANTHEMUMS.

It has been once again said that the early flowering or September blooming sorts are not wanted, and that cultivators have still to rely on the old varieties. This, however, is certainly not the view of the general public, when we see them in every florist's shop and stall. Cultivators need not rely on the old varieties, which in many cases they do. There is Lady Selborne being sold in the streets and shops of London, and it is an especially bad sort for such trade as a cut flower, because it has a tendency to rapidly become limp in water or out of it after cut from the plants.

Of the new sorts of this season perhaps the most important is Eadie Wright. It is one of the very best early flowering sorts ever raised in England, and to Mr. H. J. Jones of Lewisham we are indebted for it. At his place last year I did not think very highly of it, but when I grew it this season I found out its merits. It is a pink fading to nearly white. In form it grows in the largest flowers into nearly a ball of rather stiff petals, rounded at the end, neither incurved nor reflexed. The blooms are about 4 inches across, and the plant grows about 3 feet high. The number of buds it forms is enormous, so that for cutting the flowers are almost endless till the frost comes.

I think it is proper to give the second place to Lemon Queen. This is my own raising from the seed of Cornucopia last season; thus it is its second year here, which is important, as they often vary from the year in which they are raised. I consider it is one of the best early yellows. The colour is a bright deep lemon yellow, about as good in colour as President Hyde. It is a Japanese in form, having flowers 2½ to 3 inches across. The plant grows rather over 3 feet high, and commences to bloom at the beginning of September. Another seedling from Cornucopia of last season raised here, little, if any, inferior to the above, is

Ivy Starka, pale orange-yellow. It belongs to the small Japanese section, is a prolific bloomer, and attains to a height of 3 feet 6 inches. The flowers, from 3 to 3½ inches across, are produced in September.

Dorcas, a seedling from Cornucopia raised here, is a white semi-double incurved of branching habit, and growing about 3 feet high. The flowers are 3 to 4 inches across, and commence to expand at the beginning of September, lasting until the end of October. Claret Belle was also raised here, and is remarkable as being one of three different and distinct pure colours originating from the same parent. The plant grows 4 feet high, bearing Japanese flowers 3 inches across on long slender stems. October is the month when the claret crimson blooms are produced. Bronze Prince will, I believe, prove to be the earliest large flowered bronze Japanese. It is a good stout plant, not very bushy, 2 feet 6 inches to 3 feet high, bearing flowers 3 to 4 inches across, with stout straight petals. Bronze Dwarf, from Mr. R. Owen, is early, being in bloom by the 1st of September. The colour is reddish bronze. The plant grows only about 2 feet 6 inches high, and is of bushy habit. The flowers are Japanese in form, 3 to 4 inches across.

Owen's Perpetual, raised by Mr. R. Owen of Maidenhead, is a beautiful white-flowered variety, blooming at the beginning of September, and continuing to do so till November. The flowers consist of short, stout petals, which form a white ball of great beauty. It is of slender habit, and requires much support, in which respect it resembles Gustave Grunerwald and Madame Carmiaux. It has spare foliage, and comes quickly to perfection. The blooms are 2½ to 3 inches across, and the plant grows about 2 feet 6 inches high. Madame Carmiaux is a French raised variety that blooms at the beginning of September. It is a large pure white Japanese, and, like Owen's Perpetual, continues to bloom for a long time. The flowers are reflexed Japanese in form, and the long stalks make it good for cutting purposes. It grows about 2 feet 6 inches high, and the flowers are 3 to 4 inches across.

As for most of the new French early sorts that I have grown or seen at present, few of them seem to be promising. I have grown two that seem fairly good—Ambrose Thomas, a very bright, transparent, bronze Japanese, and Alfred Droz, a kind of straight-petalled Pompon, but I have not had sufficient experience of either of them yet to speak with certainty as to their qualities.—W. PIERCY, *Beadnell Road, Forest Hill, London, S.E.*

THE ROYAL HORTICULTURAL SOCIETY.

IT is very interesting to note that whatsoever may have been a few months since in the mind of the Council relating to Chiswick Gardens, that so far nothing in the way of change is contemplated during the present year. Possibly no particular changes ever were contemplated. It is satisfactory to find that not only is the new Superintendent (Mr. S. T. Wright) to have an entirely free hand, but also that the somewhat anomalous body, the Chiswick Board, is not this year re-appointed. Without for one moment suggesting that such a Board could do no good at Chiswick, yet it was too evident that its position was a very anomalous one, as well as being unsatisfactory. The Council is the Garden Superintendent's immediate employer, and as such should have no intermediaries, but fully accept all responsibility and control.

THE DRILL HALL MEETINGS.

The new Superintendent, Mr. Wright, will act as manager of these gatherings in the same way that Mr. Barron so admirably discharged the duty for so long a time. He is for the present year in any case relieved of the responsible position of Secretary to the Fruit Committee, which is at present, and for the year probably, in the efficient hands of the Rev. W. Wilks. That arrangement leaves Mr. Wright at full liberty to attend to all matters requiring attention in the Hall, and which in past days often called Mr. Barron away from his post at the table. Mr. Wilks is no novice at the Fruit Committee, as while free to sit with any Committee, yet has, as a matter of taste, always preferred the fruit and vegetable table. For that reason also he can, beyond discharging the Secretarial duties, render useful critical service.

CHISWICK AWARDS.

I learn that the Floral Committee's esteemed Chairman, Mr. W. Marshall, thinks that a hardship is inflicted on those persons who send flowers for trial to Chiswick, because the Committees which assemble there occasionally in the summer are, under the order of the Council, found at page 55 of the Society's arrangements for the year, precluded from making to such plants the customary awards of certificates, because such assemblages are not regarded as regular Committee meetings. There are frequent occasions when things seen at their best there by the Committees cannot be presented at a meeting at the Drill Hall some time later, hence they never get the full award they are entitled to.

This rule seems to act adversely in two ways. First, it checks the sending of plants for trial to Chiswick, yet nothing can be more desirable; and it checks attendance on the part of members at Chiswick, because they do not go armed with the customary Drill Hall powers. That seems to be all the more unfortunate, not only because many things can only have their distinctness or otherwise determined when grown in the Gardens, but also because only when seen growing can true habit and character be determined. For these reasons it does seem rather desirable that the Chiswick Committees should be armed with full

authority, and thus encourage the widest possible interest in the trials conducted in the Gardens.

Of course, some stipulations should be made as to numbers to form a quorum—not less than five, for instance; but it is noteworthy that so far as the Drill Hall meetings are concerned there are no stipulations as to quorums. If any such rule be applied to the Chiswick meetings, naturally it should apply equally to those held at the Drill Hall.

THE COMMITTEES.

An "Outsider's" complaint that members of these bodies are exhibitors at the Society's meetings, and get medals and other honours awarded to them for their exhibits, is a very odd one. It comes, no doubt, of ignorance. Were he a member of one of these bodies he would learn to know that membership exercises not the least influence in the making of awards, indeed I sometimes think such person's products get all the more criticism. The proportion of actual exhibiting members of these Committees is, after all, surprisingly small, and, again, their exhibits are none too frequently seen. It would indeed be unfair to render any person's occasional presentation of exhibits at the Committee meetings cause for disqualification of membership. I rather complain that so few relatively bring or send exhibits, as they must very often have meritorious products which the Committees would be only too pleased to see.

It is absurd to assume that members would go out of their way to vote awards to fellow members simply because they were such. Every award made is governed by merit, but then those members present are better judges of what in the respective cases constitutes merit than can be any outsiders. Critics should understand that the Committees cannot help encouraging the exhibition of collections also, because it is only through such that anything like an adequate exhibition to satisfy the public and the Fellows can be furnished. After all a silver medal is no great reward to anyone. It does nothing to repay expenses, which are often heavy; it is an acknowledgement for meritorious products that only a churl would grudge. As to the supposed sentimental or friendly influence referred to, precious little of it is felt or seen at the Drill Hall.—A FELLOW.

[Is not our correspondent in error in stating that no stipulations are made relative to the number that should form a quorum in the Committees? We think if he turn to the Committee pages of the Society's arrangements, he will find that five members form a quorum in each case.]

SEASONABLE HINTS ON FLORISTS' FLOWERS.

No two seasons could probably show more distinctively the variable character of our climate than last winter and the present one. Of course we can only speak of the present season up to the end of January, but last year at this time we were bound in the iron grip of frost, the ground lay covered with snow, and we were mourning over the destruction which we knew was taking place amongst our favourite flowers; while now our trouble is whether they will not grow too fast, and so disappoint our hopes. We may have of course severe weather yet, but as the days grow longer, the sun increases in power, we will hope for the best.

AURICULAS.

From north and south I hear favourable reports of the condition of this flower. There has been, probably owing to the character of the season, a good deal of early blooming, and up to midwinter one has been obliged to pinch off too forward trusses. This must of course weaken the plants, but they are generally in good condition, and ready to make a forward movement next month. All the decayed leaves should now be removed, the soil in the pots carefully stirred, and if it has shrunk to any extent top-dressing may be employed. As I do not think that it would be well as yet to encourage the plants too much, water should be given sparingly, and air abundantly. The present is a very good time to add to collections, and I would urge growers not to be guided simply by the exhibition standard.

CARNATIONS AND PICOTEEES.

Here again we find a remarkable contrast between the state of things now and this time last year. Our frames containing them were kept closed, and if we did get a peep at the plants they looked pretty miserable; now the question is whether they will not be too forward, and Mr. Martin R. Smith's seedlings in the open look as if they had not felt anything of the winter, and are beautifully fresh and green. It is, I think, more and more evident that the border varieties are occupying people's minds more than the strictly florists' varieties; there seems, too, to be quite a break in the yellow ground Picotees which were formerly so scarce, and there has been a large addition to them of late years especially due to the efforts of Mr. J. Douglas; all that will be needful now for those that are in pots is to keep them clear of weeds and free from damp. We must not venture to plant them out until March or April. Should there be any sharp frost the frames should be covered with mats and water very sparingly given.

GLADIOLI.

Little can be done to these at present, but if any wish to add to their collection now is a good time. The bulbs which are in store should be looked over from time to time, and while kept free from frost should have as much light and air as possible. As I have often said, my bulbs are kept in open drawers and not in bags; in the latter case they are

apt to get together and encouraged to send forth roots before the proper time for planting; this I consider a disadvantage.

PANSIES.

Of all the florists' flowers that I grow this class suffered the most. We have always a difficulty in our southern localities in keeping these plants, which seem to be at home in the more moist and cool districts of the north of Scotland; and when we get such seasons as those of 1893 and 1895 they suffer terribly. Many persons do not take notice of the great difference there is in the respect of climate in the small compass of our islands, and thus I was told yesterday that a firm in Scotland, through whom Roses and shrubs had been ordered, was unable to execute the order owing to the hard frost, while nothing could have been more suitable for the moving of plants than the weather of the last month here. In our climate Pansies get covered with mildew and die off in such seasons as 1895, and it is very difficult to keep up any stock of them. It will be time now for those who grow them to see that they are placed in their flowering pots in a compost composed of loam, decayed manure, and leaf mould in equal proportion, with the addition of some sand. I only write of the fancy varieties, for I have long since given up what are called the show varieties, and I believe this is generally speaking the case.

RANUNCULUS.

If the Pansy amongst plants suffered so severely last year so did this amongst roots, and I fear growers in the South of England had but a poor tale to tell when they lifted their tubers last summer. The Ranunculus is an essentially moisture-loving plant, and it is pretty well known in gardening that no amount of watering will take the place of that which they receive from the clouds, and so although I had a plentiful supply close at hand, and did not stint its application, my stock was greatly reduced. I shall soon, I hope, once more be able to plant, but not as largely as before. This used to be a much more tedious and tiresome operation than it now is, as I used to consider it necessary to be very particular in not having the tubers deeper than 1½ inch, but I have long ago left off being so precise, and with no bad results.

In planting, which I do in beds 4 feet wide, shallow drills are drawn about 4 inches apart, and the tubers then planted in them at about 5 inches apart. It is well to press them down pretty hard, as worms have an unpleasant trick of throwing them out of the ground. I have generally regarded the 20th February as about the best time for planting, and if the ground be in good condition this date answers very well. Last year this, of course, was impossible, as the ground was fast bound in frost; but I should hope there is every prospect this year that they would go in well. When they are planted the beds may be lightly raked over and kept clear of weeds, which about that time will be starting to grow.

ROSES.

I suppose one must count these among florists' flowers, and therefore a word may be said about them. What a contrast these form now to their condition this time twelve months! With what sad eyes did growers look on their plants then, and had they known how long that frost had to last the sadness would have been much greater. One is continually hearing of its baneful effects. It was only the other day that I heard from a friend in Devonshire, formerly one of our most redoubtable champions, in which he stated he had just planted upwards of 400 Roses to replace those that he had lost by the frost of last winter, and if this took place in Devonshire you may be quite sure there are a great many who have not perhaps told their woes are now mourning over their losses. Now we have come to nearly the end of January we have had no frost to check our Roses, but I do not see that they are so forward or pushing so much as we might expect.

With regard to work amongst them, this will very much depend on whether the grower is an exhibitor or not. If the former he will probably be preparing to give his beds a good supply of manure; if the latter he will, on the contrary, be looking eagerly for the time when he can remove that which has been on the beds all the winter, and make them tidy for the summer months. In some of the earlier districts pruning may be thought of. I have known, for instance, in Reigate of this operation being performed the first week in February, but as a rule this is much too early, and before the proper time comes I may have something to say on a thoroughly well-worn subject.—D., Deal.

FORCING RHUBARB.

I BELIEVE there is a general impression amongst amateurs that to force Rhubarb successfully it requires a dark place, where warmth can be maintained. To those who have a low house, lean-to, or span, where a temperature not lower than 55° can be maintained, I would advise that roots lifted in the autumn be brought in, placed close together on the floor or borders, filled in between with good half-decayed manure, a thin covering being placed over the crowns. The pipes or flues, paths, and walls, should be damped several times a day, and the reward will be a good supply of stout, good coloured sticks, which can easily be disposed of if near a town. Though a greater amount of labour is required, it must be borne in mind that good-sized roots give most satisfaction. Pieces broken off while lifting can be transplanted if required to increase the stock. Choose during the summer (by placing a stake near each crown intended for forcing) the plants most highly coloured.

In the gardens here a new range of glass has recently been erected

for the instruction of a number of boys in horticulture, the produce being sold. A large quarter of Rhubarb was lifted in the autumn for forcing, and has been brought in at intervals, placed on the floors of the houses, and treated as advised above, with the result that fair produce has been pulled, of high crimson colour, since December 19th, and which finds a ready sale. The majority exhibited for sale in the shops hereabouts is of a pale colour, doubtless the result of being grown in darkened places. It is of fair length, but lacking the robust, fresh appearance of Rhubarb otherwise treated. I send a few stalks for your inspection, though the best have been sold.—HENRY CLAYTON (*Gardener*), *Manchester and Salford Reformatory School*.

[The specimens sent are excellent in every respect, and prove the system of culture adopted to be perfectly suitable. It is the best coloured Rhubarb we have seen this year.]

TRAINING VINES ON THE LONG-ROD SYSTEM.

THE subject of Grape growing is discussed continually, but I do not remember seeing any notes on the above system of culture, nor have I seen more than one instance of it. Nevertheless, it has decided advantages over other systems under certain circumstances, one of the chief being greater cleanliness where plants have to be grown in the same structure; pruning in the winter is reduced to a minimum, and no unsightly old rods and spurs are to be found, the greater part of the wood being cut away after two seasons' growth. This leaves scarcely any hiding places for red spider, thrips, or mealy bug, as the wood of the current year's growth is too smooth to encourage them, and is also very much easier to clean with insecticides.

I am led to make these remarks from knowing a Vine at Wierton House, Maidstone, for nearly forty years, which was grown under this system, and after it reached its full size it produced a heavy crop of Grapes every year. The variety was the Black Hamburgh. The house, a span-roof, was only a small one, 24 feet by 14 feet, 10 feet high at the eaves, and 17 feet at the apex, the ends of the house being N. and S. The Vine was planted outside in 1854 by my father, who was gardener there, the soil being a warm one on a limestone formation. As it was situated on the side of a hill the natural drainage was good, and consequently no elaborately prepared border was made, but a good top-dressing of decayed farmyard manure was given every spring for a short distance around the main stem. A little chemical and liquid manures were used occasionally.

The Vine was planted at the N.E. corner of the structure, brought through the wall, trained upright until it reached the eaves, when the main stem was conducted horizontally until it reached the S.E. corner of the house, a distance of 24 feet. Seven upright rods were taken from this, one under each rafter, reaching to the apex of the roof. The securing of these rods was probably rather slow work at first, although I have no record of the time it took to get the house furnished, but most likely only one was added each year. This is, I think, the only drawback to the system, and it might be obviated in a less lofty structure by planting some supernumerary Vines, to be removed when the permanent plant required the room.

After the whole of the east side of the house was furnished the Vine produced upwards of 1 cwt. of Grapes annually, on an aggregate length of 84 feet of bearing wood, and these finished in excellent condition as regards colour and flavour without any fire heat. The size of the Vine in 1893 (forty years' growth) was 12½ inches in girth at 1 foot above the surface of the ground, the same size at 10 feet from the surface, and 7½ inches at the termination of the permanent horizontal branch. The upright branches, seven in number, were renewed annually, a strong shoot being trained up each spring to take the place of each bearing rod as soon as the foliage decayed in the autumn.—W. H. DIVERS, *The Gardens, Belvoir Castle, Grantham*.

FLOWER SHOWS.

A "SCOTTISH GARDENER" must indeed have a poor opinion of his brothers of the craft to which he belongs. He seems to hold the opinion that all exhibitors are necessarily rogues until they are found to be honest. Not a very flattering compliment to exhibitors certainly. The fulfilment of the idea of introducing certificates instead of money prizes would probably be the first step towards the finish of flower shows. How does he expect men will put forth their best efforts in obtaining produce of superlative quality for simply a piece of paper? Look at the tremendous efforts often needed, the anxiety attending the same, and this sometimes for years before the object is attained.

How often before and after the ordinary day's work the plodding enthusiast is found at his task, and for this purpose a man must be well fed and looked after, especially if his duties are of a multifarious character. What is going to pay for all this and the various expenses incidental to exhibiting? Is it to come out of his weekly wage? I maintain a man is not just to himself and his belongings in following such a course, particularly so when the position of the great majority is as uncertain as the weather. It is not avarice that prompts exhibitors, but enthusiasm combined with a feeling of necessity of providing against the unknown future, for a gardener has little chance of saving a competency out of his salary. There are of course exceptions, and I should think a "Scottish Gardener" must be one of the fortunate ones who has a comfortable post and a clear look out to the end of his journey, as he views things in such a complacent mood.

Honour and enthusiasm are very well, but one cannot exist on them. The world is fickle, and a man would do well to adopt the maxim of the Spartan warrior and trust in himself, if he is wise. If a gardener came to want in his old days, a bundle of certificates would probably be looked on similarly to the medals of a Balacava hero, and he might possibly find himself a burden to the ratepayers. There are men as good and true in the exhibition ranks as there are out of them, and prompted in their action only by the highest motives.

That questionable methods are to be deplored I agree with, but a "Scottish Gardener" is too sweeping in his criticism. He infers that flower shows no more represent what gardening is, any more than exhibitions represent what gardeners are. That theory, as held by a certain section of non-exhibitors, calls for little comment. I should say from what I have seen of exhibitions that the products displayed represent in the particular branches the best it is possible for horticultural skill to obtain.

Does your correspondent really think that an exhibitor of the foremost branches of gardening, who maintains an even standard of excellence year after year in the strongest competitions, does not represent a man of the best stamp as a skilful cultivator? Such exhibits carry on the face of them the clearness of integrity. Amateurs form an enthusiastic class which can afford to exhibit in an honorary way, as their means of existence is not concerned in the matter, it simply being an interesting hobby.

As a young exhibitor my experience is that petty showmen have little or no chance in good competition. They are, as a rule, the class of men who do not possess the necessary qualifications to excel, and no fear need be apprehended from what harm they may be likely to do to exhibitions. Flower shows, with cash prizes are, in my opinion, a means of maintaining the highest standard of British horticulture, and act as incentives to encourage all that is good in a man, and assist him to make provision against a helpless old age. With flower shows as with every other concern, there are sure to be found shady members, but that does not go to prove that the principles of the majority are bad. I trust horticultural exhibitions may long flourish, and be the means in some measure of rewarding the striving British gardener for his efforts in striving to excel in the work he loves.—J. J. CRAVEN, *Allerton Priory Gardens, Liverpool*.

RABBITS AND WIRE.

I READ with interest the article by "C. W. D." on this subject at page 57, as a great amount of damage is done by rabbits, especially during hard winters such as we experienced last year. Any information, therefore, that will enable us to protect our trees and shrubs with a minimum of labour is always appreciated. There appear to be few young trees but what they will bark. Holly, Privet, Larch, and Aucubas are their favourite kinds here; at any rate, these are the first to be attacked. When there is plenty of other food they will destroy young Larches wholesale. We commenced a young plantation a few years ago, the wire netting not being to hand at the time the planting was gone on with first. The rabbits made such havoc with the Larch that the work had to be stopped until the netting was erected. This was at the end of October, when there would be plenty of other food.

In protecting plantations "C. W. D." says the wire netting used should be not less than 3 feet wide, and not of larger mesh than 1¼-inch. This I find is too large a mesh, 1½-inch is generally supposed to be rabbit-proof, but even this is not small enough to keep young rabbits out. It is surprising how large a rabbit can get through this mesh; if it can push its head through there is not much difficulty in getting the rest of its body to follow. When once in a plantation a few days' feeding prevents their getting out. A large number of rabbits were shot in the plantation mentioned above that had got in in this manner. The 1½-inch mesh we have always used until this season. We are now trying netting of two sizes, the bottom half being 1¼ inch, and the top 1½-inch mesh.

For several years we have followed the plan of bending the netting outward, as illustrated on page 57. This is a capital way of preventing rabbits getting under it, but 3 inches, as stated by "C. W. D.," is not enough, especially on light land, and I would recommend double that length. This, of course, necessitates wider netting being used, which should not be less than 4 feet wide. If that only 3 feet in width is used, and this bent outwards 3 inches; this will leave only 2 feet 9 inches above the ground line, and rabbits will jump over this quite easily. Although the wider netting will cost a little more, it is best to make a good job, and thoroughly protect the trees.

In the illustration given the bent portion appears to be laid upon the ground, pegged down, and covered with soil. I consider it a better plan to dig a narrow trench about 2 inches deep, and lay the netting in this, turn the sod over on the top; these will soon all grow together again, and hold the netting quite firmly. In planting a large piece the trench may be taken out with a plough. When netting 4 feet wide is used we have about 3 feet 4 inches above the ground line. We have erected a quantity in this manner, and find it answers admirably. I endorse all "C. W. D." says in planting single trees.

During the winter of 1894 and 1895 we planted 200 Austrian Pines as single trees 3 feet high, and about fifty Abies Dowglasi. The latter were protected with netting, and are growing well. The Austrian Pines, although painted with a mixture supposed to be proof against damage by rabbits, were all destroyed by them. Last winter was exceptionally severe, but it is much the best to protect each tree where

rabbits are numerous. It is advisable to use large cradles for specimen trees. When the branches are compressed they will grow through the wire, and be eaten off. I have seen a number of young Hollies, Cedars, and Aucubas spoilt in this manner. The netting should be fixed clear of the branches, and kept in position by three or four stakes.—J. S. UPEX.

CULTURE OF BOUGAINVILLEAS.

It is impossible to convey a fair idea of the splendour of the Bougainvillea when flowered as it should be, whether grown in a pot as a specimen plant, trained on a balloon shaped trellis, or planted out in a confined border as a climber for the roof of the warm conservatory or temperate house. *B. glabra* is in my opinion the best variety, being much freer in flowering than *B. speciosa*.

Many people have an idea that Bougainvilleas will not flower or thrive well in any other than a stove house, but I have seen by far the best results follow where they have been given much cooler treatment throughout. I am speaking more especially of plants grown in pots, although I have seen them growing and flowering profusely when planted out. My system of culture with Bougainvilleas as pot plants is to pot them about the middle of the month of February. The old ball of soil should be very carefully removed with a pointed stick, great care being taken not to loosen the soil round about the stem of the plant. The plant should then be stood in a tub of tepid water and thoroughly soaked before potting. The compost I have found answer well consists of three parts good turfy loam to one part each of fibrous peat and decomposed cow manure, adding a liberal quantity of silver sand, bones and charcoal, the whole well mixed, and used in a rather lumpy state, making it very firm in potting. No water must be given for several days, and when it is applied give sufficient to pass through the pot.

In pruning, the wood made the previous year should be cut back to three or four eyes, except in the case of young plants which are intended to form specimens, when more eyes may be left, provided the wood has been well ripened previously. The remaining wood should then be neatly tied to the trellis and the plants stood in a gentle warmth to start into growth, an early vinery being a suitable place. The syringe must be used freely until the plants show signs of growth, when they may be removed to a cooler house and the young growths disbudded to one or two to each spur. Copious supplies of weak liquid manure are necessary from this time to the end of September, after which period the manure water must be withheld and the plants kept as quiet as possible. I allow the young growths to run wild, not tying them in to the trellis till well set with bracts.—H. T. M.

VIOLAS IN POTS.

POPULAR as the Viola is becoming as a bedding and garden flower, it has not so far found favour as a plant for pot culture; in fact, it was stated at a meeting of the London Pansy and Violet Society last summer by one of the most eminent florists of the present day that it was simply impossible to grow it well in a pot, and, therefore, useless to try. That this was not the case I felt pretty certain at the time, and before the end of the summer proved that they could be grown quite as well in pots as in the open border. Some may say that it is unnecessary trouble, and occasionally it may be so, but everyone is not blessed with a large garden, and many a lover of these beautiful, if modest flowers, would be delighted to have them if he only had the room.

Well grown pots of Violas make useful plants for standing about on rustic or wire stands, especially if placed in partial shade. With ordinary care in watering, and a little tying now and then, they will bloom continuously for three or four months. This they did with me during last summer, and a more trying season could not well have been for them. When exhibited in London and at local shows they invariably received a large share of attention from visitors.

To grow them well it is best to start with well-rooted cuttings in October, placing in 3-inch pots with a compost of loam two parts, leaf mould one part, and a good dash of sharp sand. If a cold frame can be used so much the better, plunging the pots to the rim in coal ashes to protect the root as much as possible from frost. Water carefully, not allowing them ever to be dry or in a very wet condition; use the lights only when rain or severe cold prevails, and above all things avoid coddling. About the second or third week in February, weather permitting, they should be placed in their flowering pots, using a compost of two parts loam, one well decayed cow manure, one leaf mould, and sufficient sand to keep the whole open. If this can be mixed a few weeks before it is wanted, and turned over once or twice, so much the better.

For flowering use 32-sized pots, drain well and be sure to cover the crocks well with moss or fibre. Pot moderately firm, return to the frame for a week or two until the cold winds are passed, and the plants are started into growth, when they may be placed out of doors. Should aphids attack the plants, one or two syringings with a solution of soft-soap, 4 ozs. to the gallon of water, will keep them clean, but as this is injurious to the flowers it must not be used within a week or ten days of a show, or if the plants are wanted for any special occasion.

In choosing varieties a little care is needed, some flowering so much more freely than others. The habit of the variety, a point of great importance with some, need not be considered so much when growing in pots, as a rambling grower detected as a bedder can with a little tying

be made into a beautiful specimen. Varieties likely to answer the purpose best are Archie Grant, Ardwell Gem, Carissima, Craigie Countess of Kintore, Duchess of Fife, Goldfinch, Iona, Lady Dundonald, White Duchess, Border Witch, one of the most beautiful in cultivation; Christiana (perhaps the most free flowering of any last year, it carried from fifty to sixty flowers on one pot for over six weeks), Mary Scott, Blue Gown, Sweet Lavender, Sylvia, Vestal, and Blush Queen. Other varieties may do equally as well, but there is one or two, notably Tara and Charm, which will give no satisfaction.—W. B., *Woking*.

HYDRANGEA INVOLUCRATA VERA.

WE are not surprised to hear that "Journeyman" has not seen this *Hydrangea* (fig. 16), as it is rarely grown in this country. It is hardy, distinct from all others of the genus, and being decidedly ornamental, both in foliage and flowers, it is worth cultivation. The prevailing colour of the trusses is blue, but the expanded flowers are brighter. The plant is a native of Japan, and was introduced, named, and described



FIG. 16.—HYDRANGEA INVOLUCRATA VERA.

by Siebold some years ago, but has for some reason or other remained scarce, and is seldom seen. The protecting involucrated bud is very remarkable, in this respect being totally dissimilar from all other *Hydrangeas*. The hardiness of this plant has been well established, it having endured without the slightest injury several severe winters, and has flowered freely every year. It is of low and rather close growth, rarely exceeding 2 feet in height. A flower truss is produced by every growth. The plant is suitable for borders of hardy flowers and the margin of shrubberies.

CARROTS FOR EXHIBITION.

DURING the past few years the cultivation of Carrots, especially for the purposes of exhibition, has advanced to an extraordinary degree, while at the same time equally great strides have been made in the varieties. Not very long ago only two or three forms were available for showing, whereas now we have at least half a dozen. The specimens of the various types seen at our leading shows act as a stimulus to the thousands of gardeners who visit them, and many depart with the fixed

determination to discover what the soil really will produce in the way of root crops. All growers cannot of course attain to the high standard of success that some of the leading exhibitors have reached, but every earnest worker may produce very good results and even share a moderate success in the exhibition arena.

No vegetable crop grown in British gardens pays better for good cultivation. After several years' practical experience I have come to the conclusion that Carrots should follow on land heavily manured the previous year to insure large, clean, handsome samples. I have found it excellent practice to sow the seeds on ground that was occupied the previous year with Onions, for which having of course been heavily manured and thoroughly worked. The plot decided on should be turned up roughly during the autumn and all stones or anything in the soil that might prove a hindrance to the roots must be removed. Of course, as every gardener is aware, autumn digging is not advisable for all soils. Here, for instance, it is not resorted to when it is intended the ground shall be used for early crops, as the soil left undug can be worked quite a fortnight earlier than that dug in the autumn, as in that case it becomes spongy and retains too much moisture, especially where there is an excessive rainfall, as is the case in the Vale of Neath.

About a fortnight previous to seed-sowing the ground ought to be well forked over and given a good sprinkling of soot and wood ashes. Towards the last week in March repeat this dressing, and tread the whole bed over twice, afterwards raking evenly. Proceed to take out drills 12 inches apart and just deep enough to admit of the seeds being lightly covered with very fine soil. As soon as the seedlings are visible run the Dutch hoe through the bed, and repeat this treatment as often as time will permit, as it cannot be done too often.

If the plants do not appear to be making satisfactory progress, a light sprinkling of nitrate of soda and phosphates mixed together and applied during showery weather will greatly benefit them. Thinning must have every attention, and should be done gradually until the final thinning leaves each plant a foot from any of its neighbours. The same cultivation I find suitable for both Parsnips and Beetroot, but in the latter case a good sprinkling of salt will be found helpful given some time previous to the sowing of the seeds.—C. FOSTER, *Aberpergwyn Gardens, Glyn Neath*.

A VISIT TO MADRESFIELD COURT.

A TRIP to Worcester and Malvern some months ago gave me an opportunity to pay a visit to this celebrated place. Unfortunately, however, time admitted only of a somewhat hurried inspection of a few of the chief features, yet sufficient interest, I trust, to notify to the readers of the Journal. Approaching the entrance lodge, after an enjoyable walk from Malvern Link railway station through the clean and comfortable-looking village of Madresfield, my attention was arrested by the famous avenue of the North American Fir tree, *Picea nobilis* var. *glauca*, the strikingly beautiful grey-green coloured tops, which projected above the broad bordering of other trees and shrubs. Before proceeding further, I may here observe that my attention was drawn to another object worthy of mention in the rustic wooden fence furnished with flourishing plants of Honeysuckle, and which served as a screen between the highway and an adjoining field, instead of an ordinary hedge or other fence. The Woodbine is a favourite flower with Earl Beauchamp, and this is one of his lordship's novel ideas to encourage its extension outside the pleasure grounds proper, so that others may mutually enjoy that which he himself is so fond. It must be explained that the fence in question is not placed in close proximity to the footpath, but about 3 or 4 yards distant, and the field side protected from cattle by a stout fence at a suitable distance. Wishing to meet with Mr. Crump as soon as possible, I made my way direct to the kitchen gardens, passing what appeared to be an experimental orchard of young Apple, Pear, and Plum trees, many of them laden with fine, brightly coloured fruits. A short distance beyond I found my old friend, and received a most cordial welcome.

Instead of—as is customary when visiting gardens inspecting the houses first—a tour was made of the outdoor fruit and vegetable departments on our way to the pleasure grounds and pinetum, the latter being the principal object. I noticed a collection of exceedingly well cultured fruit trees, amongst which were several espalier Apple trees laden with splendid fruit, truly a sight for "sair een," to borrow a Scotch phrase. Amongst the more notable were Lord Derby, Cox's Pomona, Yorkshire Beauty, Allen's Everlasting, Claygate Pearmain, Sturmer Pippin, Ribston Pippin, and magnificent examples of Cox's Orange Pippin. Evidently the strong soil in which the trees are growing is admirably adapted for fruit trees. Mr. Crump drew my attention to a model bush-trained Apple tree of large dimensions, literally beladen with fine fruit called May Queen. In the successful culture of the Apple and Pear, and in fact of all other kinds of fruit at Madresfield, a chief factor is the rigid observance of admitting ample light and air amongst the branches, and allowing them to extend more naturally than is often observed elsewhere.

Pears were a very thin crop, as in many districts last year; but this applied to the trees in the open, whereas several of the wall trees were very well cropped with fine fruits, notably Pitmaston Duchess, Doyenné Boussoch, Doyenné du Comice, Marie Louise, and several others. Apricots had been a heavy crop, and several Peach and Nectarines were bearing fine highly coloured fruits. An interesting and pretty feature in the cultivation of the Pear, running across one of the "quarters" of the kitchen garden is an avenue trained to an iron trellising, arched over at intervals, and which affords a most pleasing

sight, especially when furnished with a good crop of fruit. Only a passing reference must be made to the well-cropped vegetable quarters, and the scrupulous neatness and freedom from weeds everywhere to be observed.

Proceeding along a newly formed hardy herbaceous garden, filled with large clumps of a select assortment of plants, and at one end of which was a large mass of *Montbretia crocosmæflora*, the noble avenue of *Picea nobilis glauca* is again reached, and the beauty of which words fail to describe, the scene being further enhanced by a view of the Malvern "Beacon," as seen along the avenue, and only marred by the branches of an overhanging tree. This is a very fine old Oak that was said to have been planted by Charles I. when visiting Worcester, and as such it is preserved with religious care by Lord Beauchamp, inasmuch that a decayed branch is allowed to remain until it falls naturally from the tree. Pursuing our way, the next object of interest was the avenue of graceful Cedars, principally *Cedrus atlantica*, I believe. The history of these trees is interesting by the fact that the seeds from which the plants were raised was an importation by Mr. Richard Smith Carington (the senior partner of St. John's Nurseries, Worcester), and secured by the late Earl Beauchamp, if I am correctly informed. Another avenue, formed principally of Elms and Horse Chestnuts, completed a trio of avenues not to be excelled, if equalled, in the kingdom. Of the numerous other noble specimens abounding in the grounds time would not allow of special notes, excepting that my attention was drawn to a splendid specimen of *Picea grandis*. Time and space permitting, much of interest might also be recorded of the numerous other trees and shrubs spread over the well-kept grounds. Mention, however, must be made of the charming rockwork adjoining the pinetum, a memorial to the good taste of Mr. Pulham of "rockery fame."

Passing to the flower garden, one's attention is arrested by a Gothic-like building immediately opposite the western front of the Court, and the walls of which are covered with a close mantle of Ivy. Neither door nor window is to be seen from the mansion, consequently tending to increase the stranger's conjectures as to its identity, until informed that it is the stables and coach department. It affords a picturesque and dignified object in perfect harmony with the surroundings.

The flower beds are large and chiefly of a rectangular form, and presented an example of floral picture colouring of an unusual character, which afforded a grateful relief from the stereotyped "ribbon" and other styles of "bedding out" so universally recognised during the last forty or fifty years. Mr. Crump informed me that it was his noble employer's taste to have a system of what may appropriately be termed "colour-massing" introduced into the parterre, to effect which each bed was assigned one colour only, and with no edging of another colour; whilst, also, the degrees of colour, embracing the whole of the picture scene, were limited to those possessing a combined richness and warmth, pronouncedly Rembrandtian in effect. This style and effect will be more readily realised by the reader when such plants and flowers, as rich crimson Coleus, Iresine, dark-hued Heliotrope, dark blue Lobelia, a rich crimson dwarf "tuberous" Begonia, and *Verbena venosa* are mentioned. Altogether the scene was striking, and if too sombre for some tastes, is yet worthy of imitation, if only for the sake of the change afforded.

Another characteristic feature in connection with the scenery of Madresfield worthy of special mention is the apparent entire absence of coniferous trees in the park, excepting those properly confined to the pleasure grounds and pinetum. The individuality of the beautifully wooded park would be destroyed, or at least much weakened, by the introduction of Conifers, which, beautiful as they may be in themselves, or in suitable positions, tend to produce an un-English-like effect when introduced, especially on the "dotted" about style too frequently to be seen. The foregoing remarks, however, apply more particularly to such estates as Madresfield, the breadth of which readily admits of a strict observance of the principles herein enunciated, and the importance of which must be my apology for this lengthened digression.

Time would allow of only a glance through the glass department, yet sufficient to note and admire, especially the fine crops of Grapes, including the famous Madresfield Court variety, of which some superb examples arrested attention. In the Peach houses heavy crops of fine fruits had been gathered and still continued ripening crops. Figs were splendid, the same remark applying to the Melons, of which "Blenheim Orange" is a special favourite. The excellent order and culture observed in the several departments reflected the utmost credit on Mr. Crump.

Darkness having set in precluded an inspection of the young fruit tree department, maintained for the benefit of such tenants on the estate who may be disposed to "go in" for fruit growing. Apropos of the lively interest the young Earl takes in all that pertains to the welfare and interests of the tenants and others belonging to his extensive estates, it may be mentioned that at the time of my visit I noticed preparations for the annual Madresfield and District Agricultural exhibition were in force on a site in the park in close proximity to the flower gardens in front of the Court. The Cottagers' Horticultural show had been held on the same site a few days previously, and every inducement is held out by his lordship to encourage and promote the interests of all, and stimulate in them a desire for gardening pursuits. This small testimony is given with increased pleasure when remembering the warmth of expression which animated Mr. Crump, whilst alluding to the generous characteristics belonging to his noble employer. Long may the Earl and his gardener be spared to so mutually enjoy that which both love so well, is the sincere wish of one who will ever esteem his first and only visit to Madresfield Court as a red-letter day in his life.—W. GARDINER.



HARDY FRUIT GARDEN.

Pruning Apricots.—Loosen the trees from the walls or fences and prune out any exhausted parts, whether old or young, as well as weakly shoots. Growths of medium strength are the best to reserve, being invariably more fruitful in character than thick, sappy wood on the one hand or delicate shoots on the other. Crowded or unsuitably placed shoots must either be entirely cut out or shortened to form spurs, though the latter ought not to be originated too thickly. Endeavour to encourage all artificial spurs to form on the upper side or front of branches, the lower or under side and the part nearest the wall face being kept free of growth with the exception probably of a few natural spurs being allowed on the under side.

Natural spurs are formed freely in all parts of an Apricot tree, and it is desirable to encourage them in all convenient positions. They add to the permanent fruitfulness of the trees and render less necessary the training in of young shoots. Young medium sized shoots are, however, capable of bearing fine fruit, and such must be trained in where sufficient space admits, retaining them 12 to 15 inches long. As it is usually desirable to shorten those of greater length than this, let the cuts be made just above a triple bud, so that wood growth may follow. This is necessary with bearing shoots in order that the extension of wood and leaves above the fruit may draw sap which will benefit the swelling fruit in passing to the growing shoot. Wood growth also proceeds from terminal buds, and it is better not to prune a shoot at all than to shorten to buds where no wood bud is situated, because shoots thus pruned die back to the nearest wood bud and no fruit can form.

When wood growth only is desirable shoots may be pruned to the lowest buds, which are invariably wood buds. It is from these that the succession growths which take the place of the preceding year's bearing shoots are originated; therefore in training it is essential not to injure these important buds. The process of cutting out superfluous wood and shoots includes the removal of the old bearing wood if this were not carried out as it should have been after the crop was gathered.

Pruning Peaches and Nectarines.—Similar treatment is accorded these fruits, though as a rule more young growths are retained and a lesser number of spurs, either natural or artificial reserved, simply because the system of producing fruit on spurs does not answer nearly so well as by furnishing the crop from young wood, which of course is produced one year and fruited the next, afterwards cut out. Dispense with exhausted wood. Shorten weakly shoots to the basal buds if growths are wanted in positions that these buds can furnish. It is frequently the case that the points of shoots are immature or unripe, hence it is best that the tips be cut off at the present pruning, shortening to a triple bud—that is to say, buds where a wood bud is situated between two blossom buds.

If the shoots are shortened to blossom buds wood growth cannot be originated above the fruit, which is so desirable for assisting in its development during the summer by attracting sap thereto. The wood growth here referred to is not adapted for furnishing the general bearing wood, that being provided for by the buds at the base of the fruiting shoots. Wood buds may be known from blossom buds by their pointed appearance, blossom buds being round. The shoots retained as bearing wood may be laid in at a distance of 4 inches from each other, selecting those on the upper side of the branches and most equal in vigour. Avoid overcrowding, not only for the welfare of the bearing shoot when developing fruit, but to strengthen the successional growths which are advancing at the same time.

By annual regulation and careful pruning all parts of the trees are kept furnished with healthy wood and a proper balance of growth maintained throughout. Sudden removals of large branches sometimes causes injurious effects and leads to gumming.

Cleansing Walls and Trees.—While the trees are away from the walls a thorough cleansing of both trees and walls must be effected. Insects are hidden away in crevices and holes between the bricks and mortar; these should be filled up with durable mortar or cement, so that the walls present an unbroken surface on which to train the trees. Wooden fences should be retarred. Some walls admit of being colour-washed; if not, the brickwork ought to be well syringed with softsoap and sulphur solution at a temperature of 140°, to destroy as far as can be the possibility of insect life re-appearing.

The trees require attention next, dressing them with some effective insecticide. A good and simple dressing consists of sulphur, softsoap, paraffin, and hot water. To prepare these ingredients, dissolve ½ lb. of softsoap in 2 gallons of water; mix ½ lb. of sulphur to a paste, adding to the solution with two wineglassfuls of paraffin oil. Mix thoroughly, so as to combine the oil with the solution, maintaining the combination by frequent stirring. Soot or clay added will give a decided colour to the mixture and bring it to the desirable consistency of paint, when it is easily and conspicuously applied to the wood by the aid of a painter's brush. On the younger portions of wood the brush must be worked upwards, and the smallest bud will not be displaced, while every inch of wood can be covered.

Training.—The loosening of the trees from the walls gives an opportunity to readjust the branches, occupying the space available to the best advantage. If possible depress the stronger branches and elevate the weaker, this applying chiefly to young trees; but the best plan is to secure the majority of branches as near equal in vigour as possible by annual regulation and a careful selection of those best adapted and situated for securing a fair crop. Avoid fastening the young shoots tightly to the wall or fence, nor should shreds and ties be too freely used. Medicated shreds are the neatest for the young shoots, and do not afford lodgment for insects as cloth shreds do. Stout lengths of the latter are best for the larger branches.

FRUIT FORCING.

Vines.—*Earliest Forced in Pots.*—When the Vines are in full leaf they part with considerable moisture by evaporation both under sunlight and at night, or when the atmosphere is dried by ventilation, artificial heat, and surfaces absolutely too dry to give off water-vapour. This does not necessarily imply elaboration, for that of chlorophyll can only take place under sunlight—there is no proof that it occurs by the influence of the electric light, and carbon is not taken in and fixed otherwise than by daylight, consequently the growths and crop suffer through an inadequacy of both atmospheric and soil moisture. It is, therefore, necessary to provide air-moisture by damping the paths and walls in the morning, early in the afternoon, and in the evening. Water also must be supplied to the soil in order to sustain the losses taking place by evaporation from the leaves, and provide nutrient matter in solution for imbibing by the roots. When the supply is inadequate the foliage flags or becomes limp, and the mineral matters solidify in the tissues, hence the needful diffusion of nourishment and the transference of elaborated matter cannot take place.

The next thing is to afford manurial matter for solution, and to supply water to insure its imbibition by the roots and root-hairs. These must be got, and they come in the most prolific manner when the soil is neither too dry nor too wet and (in case of the Vine) chiefly from the incentive of the leafage. To get roots phosphates must be given, then potash and the essential nitrogen. To attain this result there must be a favourable rooting medium—a something for the roots to push in, and this is usually provided in the shape of top-dressings of lumpy manure or turf applied to the surface. This presents food elements in a moderate and readily available form, and the roots to get at it permeate through and divide in order to make the most of it. Then and not till then is extra food of any benefit to the plant, for until that time it has neither the roots to imbibe nor the foliage to elaborate the food that all the best advertised Vine manures contain.

Vines in pots will require more frequent and lessened amount of fertiliser, or copious supplies of liquid manure, always tepid and never too strong. Thin the berries somewhat freely, not, however, going to the extreme of making the bunches loose. Maintain the night temperature to 65°, falling to 60° on cold mornings, but raise the heat in good time to 65° to 70° by day and 75° when mild, admitting a little air at 75°, increasing the temperature with sun heat to 80° or 85°, closing with a prospect of advancing to 90°, at the same time damping the house, this being necessary in the morning and evening. Observe great care in ventilating, avoiding cold draughts, as these cripple the foliage and rust the Grapes.

Earliest Forced Planted-out Vines.—Attention will be required in tying the shoots and in stopping the laterals. It is assumed that the shoots have been stopped two or more joints beyond the fruit. Where the space is restricted they may have been pinched to one or two joints, and in any case the axillary growths may be stopped at the first leaf and to one afterwards as fresh growth is made. If this is likely to interfere with the principal leaves the axillary growths may be rubbed off, except from the two lowest joints, those above the fruit being stopped to one leaf. It is of the utmost importance that the principal foliage be fully exposed to light and air, overcrowding being prolific of manifold ills; at the same time very close stopping is not advisable where there is room for extension, as an increase of foliage promotes corresponding root action, therefore retain all the foliage consistent with its full exposure to the light. Remove all loose and duplicate bunches, thinning the berries as soon as they become well formed, but do not defer this longer when the properly fertilised berries are distinguishable by their taking the lead in swelling. Where results are of more consequence than appearance the inside border may be covered lightly with thoroughly sweetened stable manure, which has had the straw shaken out and been turned several times before it is introduced, or the ammonia vapour will be too strong for the foliage, which may, however, be obviated by admitting a little air at the top lights to allow any excess of vapour to pass off, as it will in a day or two. The inside border before being covered with the sweetened stable litter should, if necessary, have a good supply of tepid water, not exceeding by 5° the mean temperature of the house, or liquid manure. This, with the leaves developed and others forming, will induce root action, and the berries will swell freely.

To promote surface rooting supply some approved fertiliser to the border, phosphates promoting their activity wonderfully. Avoid cold currents of air, also vapour arising from hot-water pipes, both causing rust. Where there be evaporation troughs on the pipes keep them charged with liquid manure, say Peruvian guano 1 lb. to 20 gallons of water, straining before use, or sprinkle the paths and border occasionally with the same where there are no evaporation troughs, taking care not to overdo it.

Houses in which the Vines are in flower should have a steady night temperature of 65°, 70° to 75° by day by artificial means, and 80° to 85°

or 90° from sun heat. Muscats require 70° to 75° and 80° to 85° respectively by day from fire and sun heat, and a comparatively dry atmosphere; and they should be assisted in setting by artificial fertilisation, brushing the bunches lightly when the "caps" come off easily with a large camel-hair brush, and applying pollen afterwards from free-setting varieties, drawing the brush charged with the golden dust lightly over the bunches. This cross-fertilisation is very effective, securing a better set and more evenly swelled berries. A constant circulation of warm rather dry air is conducive to a good set, and it is not advisable to stop the laterals closely during the setting period, but even then it does not answer to allow growths to be made which must afterwards be removed by armfuls, for this gives a check prejudicial to the health of the Vines, and does not favour the swelling of the Grapes, but often results in shanking.

Vines Started at the New Year.—Sprinkle the rods in the morning and early afternoon; but do not keep them constantly dripping with water, and so induce aerial roots on the rods, for these are had at the expense of the stored food, and have a weakening tendency. Continue the syringing until the bunches show in the points of the shoots, when it is best to discontinue it over the Vines; but maintain proper atmospheric moisture by sprinkling the paths and borders in the morning, early afternoon, and evening. Increase the temperature to 55° at night, and 60° to 65° in the day, advancing to 75° from sun heat, with ventilation in accordance with the state of the weather. Avoid cold currents, also vapour from hot-water pipes highly heated. Keep up a supply of ammonia either by introducing a few sweetened horse droppings from time to time, or sprinkling the paths and borders two or three times a week with weak liquid manure. A 3-gallon watering-potful suffices for 30 square yards of flooring or border surface. Do not hurry in disbudding, letting the bunches appear in the points of the shoots, then the weakest and otherwise least desirable can be removed; but it should be done gradually, so as not to cause appreciable check. Keep the border moist, but not by any means wet, first getting the leaves and the roots, and then supply abundance of water for evaporation and nutriment for sustaining the growth and crop.

Houses to Afford Ripe Grapes in July.—Early in February is the latest time for starting Vines to finish fruit satisfactorily by, or soon after, midsummer. Five months is the best time to allow for this, express work being only safely performed by experts. Outside borders need not be covered with anything beyond a little short litter or leaves to protect the roots from frost, for they cannot work in a frozen soil. Close the house at once, merely use artificial heat to exclude frost at night, and maintain 50° in the daytime. This to some extent will cause the sap to rise, and in the course of a few days advance to 50° at night and 55° in the day, with 60° to 65° from sun heat. A light damping about 1 P.M. and damping the house before leaving off work will aid the Vines in breaking by promoting the ascent of the sap, softening the tissues, and supplying moisture to the epidermis. The inside border should be brought into a thoroughly moist condition, as the Vines need water for the transference of the stored matter; indeed, for the due development of the cambial layer, then the break will be free and the growth satisfactory.

Late Houses.—Gros Colman is the most popular late Grape for either home use or marketing purposes, being usually free cropping, good even-sized in both bunch and berry, not difficult to colour, and when well done not inferior to any of the thick-skinned varieties in quality, always excepting those with Muscat flavour. It requires, and all late Grapes, a long time to grow and perfect the crop, therefore should be started sufficiently early, so that the Vines may have the benefit of the best time of the year—April to September—to grow and ripen their crop in. The house ought now to be put in order and everything essential in respect of cleanliness to the Vines effected without delay.

Vine Eyes and Cut-backs.—Buds may now be inserted in pots, pans, or square pieces of turf, taking the eyes from well-ripened wood, filling the pots or pans with light loam, and inserting the buds with a pinch of silver sand and half an inch beneath the surface, plunging the pots or pans in a bottom heat of 80°, and in a house with a temperature of 60° to 65° at night. Cut-backs or Vines raised from eyes last spring, and not of a strength for fruiting or planting or left over from the latter, should be cut back to an eye or two, as near the soil as possible, dressing the cuts carefully with styptic or patent knotting. When they have made 2 inches of growth shake them out of the pots and repot in turfy loam rather rough, with a sprinkling of finely crushed steamed bones, 6 or 7-inch pots being quite large enough. The pots may be plunged in bottom heat, but it is not essential; suffice if the house be kept at a proper temperature—60° to 65° at night, 70° to 75° by day, advancing 10° to 15° from sun heat, and the Vines are trained in abundance of light.

THE FLOWER GARDEN.

Acacia lophantha.—Young plants of this Acacia, well furnished with leaves and side shoots, are effective in subtropical beds, and also dotted among dwarf flowering plants. The seed is very hard, and should be soaked for several hours in hot water. Have pans of warm moist soil in readiness for the swollen seeds, and give the latter the benefit of a brisk bottom heat till they germinate. Place the seedlings singly in small pots, and keep growing in gentle heat. Shift into 5-inch or 6-inch pots before they become much root-bound.

Cannas.—Both ornamental-leaved varieties and good flowering forms may be raised from seeds, all proving of good service in the flower garden. The seeds are even harder than those of *Acacia lophantha*, but will germinate if treated exactly as advised in the case of the latter.

Seedlings growing in gentle heat fairly large plants in 6-inch pots should be ready for bedding out early in June. Old clumps ought to have been kept on the dry side, and in particular away from drip. If it is desirable to greatly increase the stock, start these old clumps in a vinery or Peach house being forced. When the shoots are about 4 inches in length split up the clumps freely, and place all in pots just large enough to comfortably hold the roots.

Centaureas.—These, notably *C. candidissima*, *C. Clementi*, and *C. gymnocarpa* are more easily raised from seed than they can, as a rule, be propagated from cuttings, and in any case the latter are not often plentiful. Sow the seeds in pans or pots of fine light soil, previously moistened; press them in, and cover lightly with fine soil. Plunge in a mild hotbed, cover with squares of glass, shade heavily till the seedlings appear; raise the pans up near to the glass to prevent the seedlings from becoming drawn, and harden the plants a little before placing singly in 2½-inch pots.

Chamæpeuce.—The silvery leaved species, *C. diacantha*, is the most popular; but the green leaved, *C. Cassabonæ*, is also of service in front rows of raised beds. Both can be easily raised from seeds, and if these are sown now strong plants in 3-inch pots should be ready for bedding out late in May. Sow the seed, and treat as advised in the case of *Centaureas*.

Ageratums.—These are not so popular for bedding as they used to be, but where large numbers of plants are required every summer they will be found useful. Those who have a few strong plants in pots will, if they place these in gentle heat, soon have abundance of cuttings, which will root in a propagating frame in less than a week. Cutting-raised plants of named varieties are most to be depended on, but seedlings do not vary greatly. Sow thinly in pans of fine soil, cover very lightly, place in gentle heat, cover with squares of glass, and shade. Prick out the seedlings first in pans or boxes, and after they have been topped once, give them more room in larger boxes or in beds of soil in frames and pits.

Ferdinandia eminens.—Where tall, graceful plants are wanted for the summer decoration of pleasure grounds this *Ferdinandia* should be grown. Sow the seeds as soon as possible, and place in gentle, moist heat to germinate. Keep dark till the seedlings appear, afterwards gradually exposing to the light. Prick out the seedlings in pans of fine sandy soil, then place them singly in 4-inch pots.

Grevillea robusta.—This elegant green-leaved plant is somewhat slow in growth, but may yet be had large enough for the beds from seeds sown now. After sowing the seeds lightly cover with soil, using well-drained pans and fine peaty soil. Place in a brisk moist heat, cover with glass, and darken. First place the seedlings singly in thumb pots, shifting them from these into 4½-inch pots as necessary.

Solanums.—Fine-foliaged species of *Solanums* are effective in large beds, or among sub-tropical plants generally, and *S. marginatum*, a species with spiny leaves edged with silvery white, is not too strong growing for dotting among *Violas* and such-like. They are somewhat slow in growth at the outset, and must be raised early in order to have them large enough to be serviceable in June. Fill pans or well drained pots with fine peaty soil, give a gentle watering, and in the course of a few hours sow the seed, covering lightly. In all other respects treat as advised in the case of *Ferdinandia eminens*.

Wigandia caracasana.—Though scarcely so ornamental as the spiny-leaved *Solanums*, this *Wigandia* is yet worthy of a place in most large flower gardens. Plants can readily be raised from seeds. Prepare pans much as advised for *Solanums*, only making the surface level and firm. The seeds are small and should be sown on the surface. Place on a mild hotbed and cover closely with glass and brown paper. When the soil gives signs of dryness partially immerse in a tub of warm water. Prick out the seedlings when quite small in pans of fine peaty soil, afterwards giving them each a 4½-inch pot, or else more room in other pans or boxes.

Sweet Peas.—Sweet Peas are so much in demand that it pays well to raise plants under glass for transferring to the open borders when large enough. Those who grow for sale will find whites most in demand, but private gardeners will want more colours. Sow five or six seeds of superior varieties in 2½-inch pots, and place in gentle heat to germinate. Harden before the plants become much root-bound, and plant out where they are to flower. This may mean a gain of a fortnight, and is also the most reliable method of sowing choice varieties, every sound seed germinating in heat.

TRADE CATALOGUES RECEIVED.

- Brunning & Co., Gt. Yarmouth.—*Florists' Flowers*.
 W. Bull, King's Road, Chelsea, S.W.—*Seeds*.
 Cunningham & Wylie, 98, Mitchell Street, Glasgow.—*Seeds*.
 Dobbie & Co., Rothesay.—*Seed and other Specialities*.
 R. & J. Farquhar & Co., 16, South Market Street, Boston.—*Seeds*.
 J. Green, Dereham.—*Annual Guide*.
 A. B. Greenfield, 10, North Street, Wandsworth.—*Select Chrysanthemums*.
 H. P. Kelsey, Kawane (Mitchell & Co.), North Carolina, U.S.A.—*Hardy American Plants*.
 R. C. Notcutt, Broughton Road Nursery, Ipswich.—*Chrysanthemums*.
 R. Owen, Maidenhead.—*Chrysanthemums*.
 C. Shaw, Sherwood, Nottingham.—*Chrysanthemums*.
 J. Yates, 29, Little Underbank, Stockport.—*Seeds*.

THE BEE-KEEPER.

APIARIAN NOTES.

ON the 15th of January I saw young bees in a number of hives, and the next day observed some in search of flowers in the garden. Snowdrops have been in bloom since the 2nd of the month, and Crocuses are showing flower. *Doronicum Harper Crewe* has been in bloom all the winter. On a wall large plants of *Jasminum nudiflorum* have been a sheet of bloom since September, and are likely to continue for two months longer, while *Pyrus japonica* has been in bloom for a month or more. On the 14th we had a storm of wind from the north-west, the most severe experienced from that direction. Not anticipating such a storm from nearly north, several hives were blown over, which could have been prevented by a few stakes, having a rail of wood nailed on the top running in a line with the hives, and close to the front of them, each hive being securely fixed by a cord. This is a neat and effective way of securing hives against storms, and may be permanent, as it in no way affects free manipulation.

Many years ago a well-known contributor to these pages wrote a letter to me in March saying several of his best hives were dead and others nearly so, because of the dead bees closing up the doorway, which would have been avoided had he kept the doorway open above the eke or "raise."

I replied, stating that if he altered his outside cases so that they would project over the floor, and adopt ventilating floors, there would be an end to the loss of hives during the winter, and no necessity of doubling colonies during the autumn. Though expert managers may do without them I wish to impress on beginners the importance of ventilating floors, the foundation of the hive, safeguards against certain contingencies that come to the experienced unawares, and are conducive to the health of the bees. All falling debris which passes through the perforations of the zinc can be collected and destroyed, together with the numerous parasites which molest hives, and are a great source of carrying any disease that may exist from one hive to another.—A LANARKSHIRE BEE-KEEPER.

AIDS TO SUCCESS IN BEE-KEEPING.

AS is now well known, when bees are left to shift for themselves without any assistance from the bee-keeper, whether they are placed in an empty modern frame hive, the homely straw skep, in a hollow tree, or the roof of some building, the result will be the same, a great loss of time in comb building. Some authorities assume that it takes 20 lbs. of honey to produce 1 lb. of wax. Whether this is a fact or not I am unable to say, though from various experiments tried, I am inclined to think that half the amount is nearer the mark.

But whether more or less is consumed by the bees to produce the desired effect, the fact remains that there is a great waste of energy on the part of the busy worker. Valuable time is lost, and this is a great consideration with bee-keepers, whose chief harvest is obtained from the White Clover, and which in my district is usually at its best the last fortnight of June and the first week in July. It is even more so, however, to those whose chief supply is obtained from the fruit trees when in bloom, as this takes place about two months earlier. In other districts where Mustard is grown very extensively, a rich harvest of honey is yielded early in the season. Although this is not of the first quality, when compared with that obtained from the White Clover it invariably finds a ready market on account of its colour being very white. I am reminded of the fact that an apiary in Lincolnshire worked on the lines advocated in these pages, which averaged in 1895 from 70 to 80 lbs. per hive obtained from Mustard alone, thus showing what good management will do, coupled with the fine weather experienced before the White Clover was in bloom. This could not have been achieved had the bees been left to chance.

Comb foundation is one of the greatest aids to success. When first introduced it was used chiefly in narrow strips secured to the top bar of the frame. From this the bees built their combs perfectly straight, but much valuable time was lost in the operation. Since then, however, great strides have been made in the manufacture of foundation, and at the present time many tons of wax are annually made into foundation in this country alone; and as it can be obtained in sheets the size of any frame, whether standard or otherwise, all may have their wants supplied at a very small cost above the price of ordinary wax.

It will readily be seen the great advantage derivable from using full sheets of foundation, on which the bees will at once commence to draw out the cells, and in an incredibly short time

a strong colony will have all the cells the required length. Within twenty-four hours the queen will have laid some thousands of eggs, and if the weather is favourable honey will at once be stored. Should the weather be dull or showery, the bees may be kept employed in drawing out the foundation by feeding with a pint of thin syrup daily until a favourable change takes place in the weather.

It is advisable for a beginner to use full sheets of thick brood foundation, these averaging about six sheets to the pound. I always use thin foundation, of which there are about sixteen sheets to the pound, thus effecting a great saving; but some experience is needed, and great care required when used in brood chambers, or a breakdown will occur. Compare this with the let-alone system of placing the bees in an empty hive to take their chance of comb building, and it will at once be seen that it is money well spent to provide the bees with full sheets of foundation in preference to only using guide combs, or, what is worse, none at all.

Foundation may be obtained from any dealer in bee appliances who advertises in these pages, and if ordered during the winter months can usually be obtained at a cheaper rate than when left until the busy season sets in. I prefer the thin, light coloured for supers, but for the brood chamber it does not matter whether light or dark, so long as it is worker comb and not drone cells.—AN ENGLISH BEE-KEEPER.

A BEE PUZZLE.

As an amateur I read every line in your bee columns with great interest, and have learned very much from your expert practitioners to my advantage. One of them has now puzzled me, and I said to myself the other day—Our friend over the border must have been having forty winks after his dinner and wrote the article on page 41 before he was well awake, or how is one to account for the following:—"At the present time I have not a younger bee in my apiary than five months, while most of them are older." When I read this I rubbed my eyes and wondered if I were awake or dreaming, but eventually passed it as a slip of the pen. As "A. L. B." is so careful to be accurate and has made no correction, I am now beginning to wonder whether I am as wide awake as I ought to be, and shall be glad if he will open my eyes on the subject, for I really cannot understand the statement alluded to.—A SURREY NOVICE.



TO CORRESPONDENTS

* All correspondence should be directed either to "THE EDITOR" or to "THE PUBLISHER." Letters addressed to Dr. Hogg or members of the staff often remain unopened unavoidably. We request that no one will write privately to any of our correspondents, as doing so subjects them to unjustifiable trouble and expense.

Correspondents should not mix up on the same sheet questions relating to Gardening and those on Bee subjects, and should never send more than two or three questions at once. All articles intended for insertion should be written on one side of the paper only. We cannot reply to questions through the post, and we do not undertake to return rejected communications.

Sowing Violet Seed (J. E.).—The best time to sow Violet seed generally is in the spring, affording the plants, that is, the seed bed, an open rather than a shaded situation, for, though the plants grow best in a shaded and moist position, they do not make that stout growth so essential for early and strong flowering as in an open one, always provided the soil is rich, firm, and kept properly moist. You may sow in good rich soil on an east or west border, covering the seed about an eighth of an inch with fine mould, and when the plants have about two rough or second leaves, transplant them carefully, giving each from 9 to 12 inches square space to grow in, watering until established.

Watering Orchids (W. S.).—This question has been repeatedly answered in this column, and we can only say again that the amount of water required depends entirely upon the species and the amount of activity at the roots. Perhaps the spotting of the blossoms is due to overabundant atmospheric moisture; we are presuming that no water has been allowed to touch the flowers, as this would at once account for it. Water drawn straight from the mains is much too cold for watering Orchids of any kind; it ought always to be a few degrees warmer than the house in which the plants are grown. Soft or rain water is much better, especially for use over the foliage in summer. The supply must never be entirely withheld from Cattleyas; always give sufficient to keep the pseudo-bulbs plump.

Prices for Digging and Trenching (W. Lake).—Tables of prices for digging and trenching (also several others) are given in the "Horticultural Directory," which can be obtained for a shilling through booksellers, or 1s. 3d. by post from this office. They are average prices for average soil, and allowance has to be made in dealing with hard, stony, and weedy land which is being brought into a cultivable state after years of neglect. We have known 3s. per rod paid for trenching recently, and the men had to work hard to earn 2s. 6d. a day.

Repotting *Cœlogyne cristata* (Anxious).—If your plants of *Cœlogyne cristata* are at all crowded so that the new growths have not room for their full development, by all means cut out any exhausted pseudo-bulbs. These, however, will not include all that have begun to shrivel, for with some varieties of this plant even the last made bulbs frequently shrivel a little at this time of year. It is not a good plan for anyone inexperienced in Orchid growing to cut their plants about at all, but you will be quite safe in removing any that are leafless if they happen to be in your way. If not, leave them alone.

Grafting Camellias (J. G.).—The best method of grafting Camellias is by the old fashioned splice or tongue process, commonly called whip grafting, and the proper time to do it is in early spring, as soon as growth commences. In the case of old trees it is the better plan to operate on all the growths at one time, cutting back the plants to the extent necessary for forming, when the grafts are inserted and taken, a good head. This beading down should be done without much further delay, and when the sap flows freely insert the grafts, and as the growths will be much larger than the scions two may be placed on each, taking care that the bark coincide exactly, at least on one side, binding securely, and covering with grafting wax or clay, so as to exclude the air. As the house cannot possibly be kept close enough to maintain the scion fresh until union has taken place, it would be safest to proceed by bottle grafting—that is, the scion below the junction inserted in a phial containing and kept replenished with rain water. In that case you may operate on a portion of the branches one season, and another portion the following year; but the grafts, as a rule, take better when all the juices are concentrated on the scions, there not being any outlet or means of drawing the sap from them by growths being left. The main point is to keep the scions fresh, and then there is no difficulty. This is effected by having them long enough for the lower part, divested of leaves, to be in water as suggested, one or two leaves being sufficient at the top of the healthy young growths that are chosen for attachment.

Hippeastrum Bulb Shrinking (W. S.).—The bulb of *Hippeastrum* has by some means got into a bad condition, and probably you will have a difficulty in bringing it round. The present is, however, a good time to set about it. Turn the bulb out of its pot, and carefully clear away all loose scaly portions from the upper part, and if there are any insects about it dust a little sulphur and tobacco powder about the scales. Keep the bulb out of the pot long enough to get thoroughly dry, and then repot into a suitable size, using as a compost equal parts of peat and fibry loam with a little well-decayed manure or leaf mould, and a good dash of sharp silver sand. Place a little sand under the bulb, and let about half the latter peep out of the soil when finished. Use the soil in a fairly moist condition, but not wet enough to bind firmly when pressed into the pot, as it must be to keep the bulb secure. If you can plunge the pot where there is a little bottom heat so much the better, but if not place it in the warmest position you can, and unless the soil gets dust dry give no water for a week or two, the plant having a chance to make fresh roots in the meanwhile. A thin layer of moss over the surface will check evaporation to some extent, and this may be left on until the growth is well on the move. If all goes well this will be in about a month, when the moss may be removed, and the water supply increased. Grow it as strongly as possible through the summer, and as the foliage dies off again diminish the water supply by degrees, until by the middle of winter the bulb must be kept quite dry.

The Codlin Moth—Spraying—Arsenic (R. C. A.).—One good old-fashioned way of decimating the Codlin moth is to pick up every Apple the day it falls (not a few days afterwards), giving these fruits to the pigs, burning or burying them. This prevents the emergence of moths; leaving the larvæ to hibernate in the ground insures a swarm. Mr. S. T. Wright of Chiswick has stated in his prize essay on "Commercial Fruit Culture," that spraying with Paris green 1 oz. to twenty gallons of water "completely ousted the Codlin moth from the Glewston plantations." You say you have often seen spraying advised, but no form of sprayer mentioned. That is scarcely our fault, since Vermorel's Eclair, of which you have read in a catalogue, has been frequently advertised, also often otherwise mentioned as well as at least once illustrated in our columns. It is a knapsack and well suited for your purpose. No injury has ever been known to result from the careful and intelligent use of Paris green conveyed in the form of spray about and for a little time after the flowering period of fruit trees, for poisoning the destructive larvæ of the winter moth. Tons have been used, and in America the most searching investigations made and experiments conducted for arriving at the truth about the matter by State chemists. It is safest to use the poison in paste form. With Strawberries ripening between fruit trees we would rather let a few stray caterpillars that might then linger have a "feed" on the leaves than spray them and ourselves run the risk of taking ever so little of the falling arsenic with the fruit, useful as it may be in medicine, in cases well known to you as a medico. We have not heard of the use of sulphite of sodium as an anti-parasitic in the garden, and if you try it we shall be obliged if you will favour us with the results. The help you are giving locally ought to be highly appreciated.

Destroying "Fairy Rings" on Lawn (G. B.).—Water the ground where the rings are with a solution of Jeyes' fluid, a wineglassful to 3 gallons of water, or a solution of corrosive sublimate (a terrible poison), 1 oz. to 30 gallons of water. These solutions will kill the spawn, but we do not recommend either, except in extreme cases, but a "lawn manure" as advertised, telling the vendor in ordering what purpose it is for, or you may use $4\frac{1}{2}$ parts kainit and $2\frac{1}{2}$ parts nitrate of soda, crushed fine, mixed, and employ 7 lbs. per rod when the grass begins to grow, or in February.

Boiler Furnace not Drawing (One in a Fix).—There is probably something wrong in the setting of the boiler and in the construction of the flues, and as the soot door gets hot the flue is probably throttled where it enters the upper part or chimney. Raising the chimney would not do any good in such a case, and without seeing the boiler and examining it we could not possibly tell you what is wrong. Could you not consult a bricklayer experienced in such work, explaining matters to him and letting him see the thing at work? You will require a good draught to burn anthracite—indeed, that is one of the points for its satisfactory use—and then it is very good and economical.

Hyacinth Spike Disconnected in the Bulb (Old Subscriber).—The cause is probably due to the spike being formed in embryo low down in the bulb, and the leaf-growth collapsing before it was perfectly formed, causing the top of the scales to contract tightly over it at the crown. The disconnection is caused by the leaves pushing through the neck of the bulb, and as these grip the spike they force it through the crown orifice, and being unable to bear the strain the spike stem snaps inside the bulb, generally at the base. Such occurrences are not unusual, being common in some years. You will find an illustration of it in the *Journal of Horticulture*, February 14th, 1895, page 144. There is nothing wrong in the treatment. It is in the bulbs.

Plants for North Aspect (J. E.).—Few plants, either annuals or perennials, thrive on a north sunless aspect, especially amongst Ferns, as these usurp most of the space by their fronds and the soil by the roots, thus impoverishing it. If there is sufficient soil you might enliven the corner by planting a few bulbs of Winter Aconite, Snowdrops, and Daffodils in the openest places, which, with Christmas Roses (*Helleborus niger* and *H. maximus*) and Hepaticas, would give you some interest and pleasure during the early spring. *Hypericum calycinum* also does well, and the Periwinkles, especially the variegated, thrive in the shade; but they would, perhaps, grow too freely for the Ferns. The blue Wood Anemone (*A. apennina* and its variety, *A. a. blanda*) is charming in the early spring, also the common Wood Anemones (*A. nemorosa* and its double variety *plena*). Lily of the Valley would do if the situation is moist enough. *Corydalis lutea* would give its yellow spikes from June to September, and *Cyclamen hederifolium* flower in autumn. Then there is the charming Squills (*Scilla bifolia* and *S. sibirica*), followed by the Wood Hyacinths in white, blue, and pink forms. *Mimulus luteus*, also the more robust growing Primroses and Polyanthus, flower well in shaded positions. Some, or all of these, would make the corner cheery in the dull months, and contrast well with the Ferns in summer time; but avoid crowding, not attempting to grow two things where there is only room for one.

Names of Fruits.—Notice.—We have pleasure in naming good typical fruits (when the names are discoverable) for the convenience of regular subscribers, who are the growers of such fruit, and not collectors of specimens from non-subscribers. This latter procedure is wholly irregular, and we trust that none of our readers will allow themselves to be made the mediums in infringing our rules. Special attention is directed to the following decision, the object of which is to discourage the growth of inferior and promote the culture of superior varieties. In consequence of the large number of worthless Apples and Pears sent to this office to be named, it has been decided to name only specimens and varieties of approved merit, and to reject the inferior, which are not worth sending or growing. The names and addresses of senders of fruit or flowers to be named must in all cases be enclosed with the specimens, whether letters referring to the fruit are sent by post or not. The names are not necessarily required for publication, initials sufficing for that. Only six specimens can be named at once, and any beyond that number cannot be preserved. They should be sent on the first indication of change towards ripening. Dessert Pears cannot be named in a hard green state. (Novice).—1, Bramley's Seedling; 2, Catshead; 3, Dumelow's Seedling; 4, Cox's Orange Pippin. (C. H. F.).—1, Nec Plus Meuris; 2, Josephine de Malines; 3, Chaumontel; 4, Jersey Gratioli; 5, Winter Hawthornden; 6, Alfriston. (G. H.).—1, Gloucestershire Costard; 2, probably a local variety, with no recognised name; 3, Queen Caroline. (M. P.).—1, Bramley's Seedling; 2, Red Winter Calville; 3, Golden Winter Pearmain. (W. J. G.).—A pale fruit of Lane's Prince Albert. (Dalgaire).—Probably a seedling from the Blenheim Pippin, but inferior, and the name you mention may have been given to it by the raiser. (W. C.).—Resembles Tower of Glamis, but we cannot be certain from a solitary specimen.

Names of Plants.—We only undertake to name species of plants not varieties that have originated from seeds and termed florists' flowers. Flowering specimens are necessary of flowering plants, and Fern fronds should bear spores. Specimens should arrive in a fresh state in firm boxes. Slightly damp moss, soft green grass, or leaves form the best packing, dry wool the worst. Not more than six specimens can be named at once, and the numbers should be visible without untying the ligatures, it being often difficult to separate them when the paper is damp. (B. D. K.).—1, *Geonoma gracilis*; 2, *Aralia Veitchii*; 3, *Asplenium bulbiferum*; 4, *Cyperus alternifolius*; 5, *Araucaria excelsa*. (M. A. F.).

—1, *Eranthemum pulchellum*; 2, *Justicia calycotricha*; 3, *Dracæna terminalis*. (P.).—*Todea terminalis*. (G. S.).—*Odontoglossum Rossi majus*; a good form of *Lælia anceps*. (A. W. P.).—1, *Trichomanes radicans*; 2, *Dictyogramma japonica*. (R. T.).—1, *Cypripedium villosum*; 2, *C. Harrisianum*; 3, *C. insignis*. (M. P.).—*Libonia floribunda*. (Anxious).—*Cymbidium tigrinum*.

COVENT GARDEN MARKET.—JANUARY 29TH.

THE supply of Grapes is now beginning to fall off, and prices are improving English goods coming very light.

FRUIT.

	s. d.	s. d.		s. d.	s. d.
Apples, per bushel	2	0 to 4	Lemons, case	11	0 to 14
„ Nova Scotia, barrel 13	0	17	Pears, Californian, per case	13	0 14
Grapes, per lb.	1	3 2 3	St. Michael Pines, each ..	2	0 6

VEGETABLES.

	s. d.	s. d.		s. d.	s. d.
Beans, per lb.	0	10 to 1	Mustard and Cress, punnet	0	2 to 0
Beet, Red, dozen	1	0 0	Onions, bushel	3	6 4
Carrots, bunch	0	3 0	Parsley, dozen bunches ..	2	0 3
Cauliflowers, dozen ..	2	0 3	Parsnips, dozen	1	0 0
Celery, bundle	1	0 0	Potatoes, per cwt.	2	0 4
Coleworts, dozen bunches	2	0 4	Salsafy, bundle	1	0 1
Cucumbers, dozen	4	0 10	Seakale, per basket	1	6 1
Endive, dozen	1	3 1	Scorzonera, bundle	1	6 0
Herbs, bunch	0	3 0	Shallots, per lb.	0	3 0
Leeks, bunch	0	2 0	Spinach, bushel	2	0 2
Lettuce, dozen	1	3 0	Sprouts, half siv.	2	6 0
Mushrooms, per lb. ..	0	6 0	Tomatoes, per lb.	0	6 9
			Turnips, bunch	0	3 0

PLANTS IN POTS.

	s. d.	s. d.		s. d.	s. d.
Arbor Vitæ (golden) dozen	6	0 to 12	Ferns (small), per hundred	4	0 to 6
Aspidistra, dozen	18	0 36	Ficus elastica, each	1	0 7
Aspidistra, specimen plant	5	0 10	Foliage plants, var. each	1	0 5
Chrysanthemums, per doz	6	0 18	Hyacinths, dozen pots ..	9	0 12
Cineraria, dozen pots ..	9	0 12	Lycopodiums, dozen	3	0 4
Cyclamen, dozen pots ..	8	0 15	Marguerite Daisy, dozen ..	6	0 9
Dracæna, various, dozen ..	12	0 30	Myrtles, dozen	6	0 9
Dracæna viridis, dozen ..	9	0 18	Palms, in var., each	1	0 15
Ericas, various, per dozen	9	0 24	„ (specimens)	21	0 53
Euonymus, var., dozen ..	6	0 18	Solanums, per dozen	8	0 12
Evergreens, in var., dozen	6	0 24	Tulips, dozen pots	6	0 8
Ferns in variety, dozen ..	4	0 18			

AVERAGE WHOLESALE PRICES.—OUT FLOWERS.—Orchid Blooms in variety.

	s. d.	s. d.		s. d.	s. d.
Acacia or Mimosa (French)	0	9 to 1	Orchids, various, dozen	1	6 to 12
per bunch	0	9 to 1	blossoms	1	6 to 12
Anemone (French), dozen	2	0 4	Pelargoniums, 12 bunches	6	0 9
bunches	2	0 4	Primula (double), dozen	0	6 1
Arum Lilies, 12 blooms ..	3	0 5	sprays	0	6 1
Asparagus Fern, per bunch	2	0 4	Roses (indoor), dozen ..	1	0 2
Bouvardias, bunch	0	6 1	„ Tea, white, dozen ..	1	6 3
Carnations, 12 blooms ..	1	0 3	„ Yellow, dozen (Niels)	3	0 6
Chrysanthemum, doz. bnch	3	0 6	„ Red, dozen blooms ..	6	0 12
Daffodils, single, doz. blms.	1	6 2	„ Safrano (English),		
„ double, doz. blms.	0	9 1	dozen	1	6 3
Eucharis, dozen	3	0 4	„ Safrano (French), per		
Gardenias, dozen	6	0 12	dozen	1	6 2
Geranium, scarlet, doz.	4	0 9	„ Pink (French), per		
bunches	4	0 9	dozen	3	0 4
Hyacinth (Roman) dozen	0	4 0	Smilax, per bunch	5	0 6
sprays	0	4 0	Stephanotis, dozen sprays	6	0 9
Hyacinths, dozen spikes ..	3	0 6	Tuberose, 12 blooms ..	0	6 1
Lilac (French) per bunch	3	0 5	Tulips, dozen blooms ..	0	6 1
Lilium longiflorum, twelve	4	0 6	Violets Parme (French),		
blossoms	4	0 6	per bunch	4	6 6
Lily of the Valley, dozen	0	9 1	„ Ozar (French), per		
sprays	0	9 1	bunch	2	0 3
Maidenhair Fern, doz. bnch.	4	0 8	„ Victoria (French),		
Marguerites, 12 bunches ..	2	6 4	12 bunches	1	9 2
Narcissi, var., doz. bunches	1	6 3	„ English, 12 bunches	1	0 2



CROP AND STOCK.

THIS is the month of statistics when full returns of importations for the last twelve months are before us, and the stern reality of our dependance on foreign countries for our food supply is brought clearly home to us. Government statistics also prove that our losses from the cultivation of arable land have led to the withdrawal of three and a half millions of acres from the plough, that out of the thirty million quarters of Wheat required to feed the teeming population of these islands annually, our own land contributes under five millions. These facts must impress every thoughtful person with a sense of the critical state of things, and when alarmists go on to predict a speedy famine in case of war, it cannot be denied that they have ample reason for taking so gloomy a view of the matter.

It is true we may take some comfort from the fact of our vast importations coming from so many countries, but it must not be forgotten that the bulk of our corn supply comes mainly from only a very few countries. By far the greater quantity of Wheat comes from Russia, the United States of America, and the Persian Gulf; Australia, the Argentine Confederation, and India being the next three, smaller quantities coming from twelve other countries. Of flour our main supply comes from the United States, whence the quantity sent is more than four times as much as comes from Canada, thirteen other countries, also importers, being at the head of them.

When the price of Wheat fell and continued falling, Barley came to be regarded as a rather safe resource for our struggling corn farmers. It was loudly proclaimed a paying crop—too loudly possibly, as we find twenty-three countries sending Barley to us last year, Russia, the Persian Gulf, and Turkey in Asia taking the lead. Our total importation of Oats amounted to 3,542,569 quarters, of which Russia alone contributed over three million quarters, Sweden and the United States being next, followed by thirteen other countries. It is certain that the bulk of foreign samples are decidedly inferior to good English Oats, yet the entire home supply was only 96,892 quarters. While avoiding lengthy tables we have gone sufficiently into figures to make clear the gravity of the situation, as an incentive in some small degree to renewed exertion, to efforts to improve in every detail of soil cultivation. The easy going times of a hundred years ago, when Wheat was over five guineas per quarter and the quarter—4 lbs.—loaf cost 1s. 9d., are gone, we hope never to return. Times have been good, and profits ample since then till some fourteen or fifteen years ago.

In a retrospective view of the years of the depression, and those previous better years of our own generation, the question arises, If when Wheat was at say 60s. a quarter corn farmers could pay 40s. to 50s. an acre for their land and flourish, when corn fell to say 30s., and their rents were reduced at the least by half and in some instances by very much more than half, why did so many fail outright. and all of them complain loudly of hard times? It certainly would appear that the old easy going method of management was at fault, and that if with lower prices a more prudent and intelligent system of management had been brought to bear on the land, corn-growing need never have fallen off so much as it has.

Hear Mr. Primrose McConnell on this. He says plainly that under their system of temporary pasture on the Essex clays at Ongar the land is easily kept clear of foul weeds, it is always in good heart by a judicious application of manure, “that fairly good crops are grown at a minimum of cost, and that making Wheat profitable at 30s. per quarter is no mystery at all, in fact it is the most profitable corn crop we have where the straw can be disposed of for a fair price.” He goes on to tell how the crops improved year by year, the first Wheat crops averaging 3 and 3½ quarters per acre, the yield subsequently advancing to 5 quarters, and the Oats, which at first only weighed 38½ lbs. per bushel, advanced in weight to 40 lbs.

Now this is in Essex, which, according to the Special Commissioners' report, has the blackest record of ruin and misery of any part of England. Surely there is a lesson here of the highest national importance. It shows clearly enough how entirely possible are improved methods of cultivation both of arable and pasture land. It is our clear apprehension of such possibilities that has led our persistent advocacy of autumn tillage, sustained fertility of soil, good seed, and timely cultivation in every way.

To do this in the best way we would have every farmer to know the nature of the soil of every field—every division of his farm—to know its condition in drainage, mechanical division, and fertility, to master its wants, and supply them thoroughly

yet with due regard to a happy combination of economy with efficiency. He must possess sufficient knowledge to protect himself. If, for example, he decides to purchase a compound manure for a special crop under a guarantee he ought to know the current value per unit of its constituents. Here is an example from the annual circular of a leading manure company. Taking the value per unit of soluble phosphate at 1s. 9d., of nitrogen at 11s., and potash at 3s. 6d., the test is applied as follows:—

18 per cent. soluble phosphate at 1s. 9d.	...	£1 11 6
2 „ potash at 3s. 6d.	...	0 7 0
3½ „ nitrogen at 11s.	...	1 15 9
		£3 14 3

The price charged per ton for this compound manure was £7 17s. 6d., or £4 3s. above its actual value. The vendor was trading on the buyer's ignorance, and this is only one of several ways in which the farmer is the victim of grasping traders. We would, then, make all such matters so clear to him as to enable him to protect himself. Then by a judicious system of intelligent farming it certainly ought to prove anything but a decaying industry.

WORK ON THE HOME FARM.

Mangolds in use for the dairy cows are in the chaff room fully a week before being used. The chaff and mixing room being in the centre, with a cow hovel on each side and opening into it, the temperature is as high as that of the hovels, a much more important matter than is generally realised. Taking the normal temperature of the cows as 100° Fahr., it is certain that the consumption of very cold food now must try them severely. Let it never be forgotten that this temperature is mainly kept up by food containing heat-forming materials.

When the supply of heat and force-yielding materials in the food digested is greater than the bodily requirements of a lean animal, the surplus is available for the storage of fat within the body; but when the supply is deficient the fat already stored in the body is drawn upon, and reduced by the necessity for furnishing force and maintaining the normal heat of the body. Surely the clear comprehension of these important facts should enable every cowman and stockman to see what goes to the maintenance of healthy condition in winter, and to control his feeding accordingly.

Avoid the common practice of giving animals large quantities of frozen roots now, or for the matter of that the use of frozen roots at all. Remember that food during digestion has to be raised to the temperature of the body, and in so raising it an amount of heat varying with the temperature of the food when consumed has to be sacrificed. Can we wonder then that store cattle are so frequently found to be shivering after consuming, say, half the daily ration of 70 lbs. of roots quite that number of degrees colder than the body? or that ewes heavy with lambs not only miscarry, but often die outright from the daily loss of vital heat under such a regimen?

Prevention is better than cure, say we once more. Attention to shelter, and to every detail affecting the comfort and health of live stock now is the sort of prevention we indicate, and we may claim that a knowledge of natural laws affecting the health of such animals enables those in charge of them to bestow that intelligent attention upon them which only such knowledge can insure. We call special attention to this matter now because it is precisely in January and February when serious mischief arising from ignorance occurs. In the matter of comfort affecting health resolve to put an end to the abominable state of filth in which the coats of so many cows are now. Only fair daily attention to the coats and litter will set this right.

ENGLAND'S STRENGTH AND WEAKNESS.

A GENTLE reproof to agriculturists runs through the article on page 45, January 16th, and I should like, as one of the reproofed, to state a few facts from my point of view. On page 46, second column, I read this:—"In 1800 we had ten acres of Wheat to thirty-two inhabitants; now we have ten acres to 260." No mention is made of the tremendous increase of population this century has seen, an increase almost abnormal. The inference drawn is that our Wheat acreage has not increased in proportion to our population. How in the name of wonder are we to increase it? Here in this sea-girt island we are truly a limited company at any rate. I suppose the answer would be "You do not make the most of what you have." Possibly not. I will, however, just try and clear ourselves a little. Suppose we took all the workable land, put it under the four-course system, that would give us about twelve million acres for Wheat-growing; this would be at the expense of Barley, Oats, roots of all sorts, to say nothing of beef and mutton. Now, on an average, this land under the best and most liberal treatment, and in splendid seasons, would yield but a trifle over three-quarters per acre, and no man on earth can make Wheat-growing pay unless he be assured of five quarters per acre at present prices. Then even we should not have an adequate supply of flour, and should be great losers in the matter of the other crops I have mentioned. No one disputes the fact that English-fed beef and mutton, in flavour and quality will heat all other out of the field, and we should be poorly fixed had we to trust to the foreigner for Potatoes, hay and roots. Then, too, our Burton

brewers would raise an outcry; good sound English Barley is bad to beat. Now another question arises. There is a growing distaste for English flour; it is almost unmarketable. Our taste has been ruined by the fine dry white flour of the foreigner, and it is useless to try and sell our people what they will hardly take as a gift. Certainly we know our flour is the more wholesome, but it is not taking in appearance and "the lust of the eye" has to be satisfied, and the "masses" are harder to satisfy than the "classes."

Just a word on small holdings (page 47, column 1). Supposing a fair-sized agricultural parish, one-quarter of which is in small holdings, the rest in large farms, I fail to see how the farmers would profit by the services of the small men in times when work pressed and was too much for the farmer's ordinary force, because the time of pressure would come on both alike, great or small. There is but one seed time and one harvest; and if supposing these small men were done first and could come to the help of their larger neighbours, by their very numbers they would at once lower the wage rate in that district, and then where would the benefit be? Then our men have found that constant employment on a large farm, the wages that come in so regularly, be they ill or well, and a decent garden are better provision than any small holding.

P.S.—Perhaps the question of wage, ill or well, needs some explanation. Our custom is to engage men by the year, and in the case of short illness no deduction is ever made. Such an understanding goes far to promote good feeling between master and man.—A FARMER.

[And a good farmer, too, who takes his own well-tilled agricultural parish as a sample of England. We wish it were. The "reproof" (if any) does not apply to any good cultivating tenant farmer, or landowner either; but mistakes have been made in many districts in turning hundreds of homesteads into barns, and making already large farms much larger, with the unfortunate result that tenants with adequate means and skill cannot be found for them. The lower the prices for land produce the greater the need for maximum yields on large and small areas. Miserable yields with (to the producer) miserable prices have brought ruin to many, and will to more. There are hundreds of parishes where men are not half "constantly employed," and they have to face the alternative of half starving at home or in towns, to which so many find their way. If they could earn half a loaf by working for others, and another half by working for themselves, surely they would be the gainers, while it is not easy to see who would be the losers, especially where the land does not pay for more labour, or where means cannot be found for it if it did, than at present employed.]

The weak point in our correspondent's able rejoinder is in supposing that any practical person of much less intelligence than himself should suggest the placing of "about 12,000,000 acres" under Wheat. It has been said that farmers as a body are devoid of imagination; we have here a brilliant exception. Large areas of land are not, as he knows, in the least suitable for Wheat culture, but anyone who travels far beyond his home domain may see every summer fields innumerable in which weeds predominate over the Wheat to such an extent that the crop could not pay if the grain sold at £2 a quarter and the grower of the weeds paid no rent.

If all the land were as well managed as our critic manages his (we have been to see it) we should be satisfied; but it is not, nor therefore are we. The condition of his farm affords the best possible justification for our remarks. It proves beyond all doubt that our country can be made stronger, and hence safer, as a food-producing nation when cultivators, large or small, possess the requisite knowledge and the means for doing what Tennyson's "Northern Farmer" did, and seemed to have made his end happy, because he could say, "I done moy duty to hall as I 'a done hoy the lond."

Duty is not done to thousands of acres of land now, and our country is weakened accordingly.]

METEOROLOGICAL OBSERVATIONS.

CAMDEN SQUARE, LONDON.

Lat. 51° 32' 40" N.: Long. 0° 8' 0" W.: Altitude 111 feet

DATE.	9 A.M.					IN THE DAY.				Rain.
1896 January.	Barometer at 32°, and Sea Level.	Hygrometer.		Direc- tion of Wind.	Temp. of soil at 1 foot.	Shade Tem- perature.		Radiation Temperature.		
		Dry.	Wet.			Max.	Min.	In Sun.	On Grass.	
	Inchs.	deg.	deg.		deg.	deg.	deg.	deg.	deg.	Inchs.
Sunday .. 19	30.322	46.4	44.6	N.	42.0	50.4	42.6	72.6	38.0	—
Monday .. 20	30.474	32.7	31.7	N.	40.8	41.3	28.0	49.9	24.9	—
Tuesday .. 21	30.443	34.2	33.6	N.	39.1	38.9	32.7	37.4	27.9	—
Wednesday 22	30.250	32.9	32.9	N.W.	38.9	44.0	31.4	60.2	26.9	—
Thursday .. 23	30.342	31.4	31.2	N.	38.7	42.6	28.7	42.9	24.3	—
Friday .. 24	30.175	41.4	39.2	S.W.	38.8	48.1	31.4	70.2	31.3	0.149
Saturday .. 25	29.941	47.6	47.6	S.W.	39.3	51.4	40.1	52.5	35.4	0.217
	30.278	38.1	37.3		39.7	45.1	33.6	55.1	29.5	0.366

REMARKS.

19th.—Overcast morning; bright sun all afternoon; clear night.

20th.—Faint sunshine all day.

21st.—High smoke fog all day; lights necessary from noon.

22nd.—Slightly foggy early; sunny morning; cloudy afternoon, and slight drizzle about 3 P.M.

23rd.—Slightly foggy early; dull morning; smoke fog in afternoon.

24th.—Bright sunshine almost till sunset; slight shower at 5.15 P.M.

25th.—Almost continuous rain from 2 A.M. to 5 P.M., dull and damp after.

The week generally dull, and of about the average temperature.—G. J. SYMONS.

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In cultivation, often sold under other names to get fancy prices. Each packet contains nearly 200 Seeds. Perfection, 3d.; Ham Green Favourite, 3d.; Roseligh Gem, 3d., a grand new selection, large smooth; Challenger, 3d.; Golden Perfection, 3d.; Collection, 1s. 3d., post free. If ordered separately, 1d. each extra for postage.

Last year I sold about 5000 packets, and they gave universal satisfaction, one grower getting over 2000 pounds weight of Tomatoes from two threepenny packets.

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Journal of Horticulture.

THURSDAY, FEBRUARY 6, 1896.

A GREATER ROYAL HORTICULTURAL SOCIETY.

SINCE (in the issue of the *Journal of Horticulture* of December 12th last, page 543) endeavour was made to represent the feelings and aspirations of horticulturists, as gathered in provincial centres, and more particularly from a meeting of gentlemen who assembled at York on the occasion of the last great show there, we have received many communications. Both from those which have been published, as well as from remarks in unpublished letters, there can be no doubt whatever that a large current of opinion is flowing in the direction which has been clearly enough indicated. It is evidently thought that instead of shutting itself up in London, so to say, that the Royal Horticultural Society might increase its power and influence for good, strengthen itself, and still farther advance the art of which it is the chief exponent, by extending the scope of its operations.

It is thought that the Society should, in a more direct and actual manner than hitherto, recognise the work of others who are, in different ways and in various districts, striving for the same object—namely, inciting a love for, and encouraging proficiency in, the delightful and important pursuit of gardening. Those gentlemen whose duty it is to determine the policy and formulate the methods of the chief Society, we have not a doubt, desire to be of the greatest possible service to horticulture in the broadest sense of that term, and over the widest area; but it is, to say the least, questionable if they have anything like an adequate conception of the real drift of provincial opinion, though they may have learned something during the last few weeks. This suggestion is in no sense a reflection on the capacity of members of the Council collectively or individually. Provincial opinion can only be gathered by close personal association with horticulturists, where the greatest number of them assemble at the leading provincial exhibitions, not at any one of them in particular, or in any particular year, but by visits to several horticultural centres year after year.

Very few members of the Council have been in the habit of visiting such centres and placing themselves in a position to ascertain

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the prevailing sentiment of important commercial and amateur horticulturists; indeed it is doubtful if the majority of the members of the Council of the Royal Horticultural Society have even seen all the best provincial shows. Those of them who may have visited these great representative exhibitions from time to time, and associated with the many earnest men who assemble there, must know very well that the systematic concentration of the chief society on the London shows and meetings does not meet present day requirements. Nor is this feeling by any means limited to provincial nurserymen, gardeners and amateurs, but is equally entertained by many residents in the South who are frequently seen at the London meetings. Whether rightly or wrongly numbers of Fellows and would-be Fellows of the R.H.S. are of opinion that the Society holds itself too much aloof from provincial effort. It is, in a word, regarded by them as too much of a London and too little of a national Society.

It is all very well to represent it in official documents as the Royal Horticultural Society "of England." It ought to be such in fact, but it is not even so in name as inscribed on its charter, and the mere extension of title only draws more particular attention to the limited extent of its operations. It ought to be the Royal Horticultural Society, not of London or England, but of the United Kingdom; and as such do what can be done in recognising commendable efforts and meritorious work over a far wider field than at present. Trustees of memorial funds do this in granting medals to men who have rendered good service to horticulture, and to societies far beyond the sound of Big Ben of Westminster, and even beyond the strict confines of "England;" but the Royal Horticultural Society seems to rest content, paradoxical as the term may seem, with its localism. It has done nothing for the provinces since the lapse of its own provincial shows. These shows are not likely to be resumed. They are pretentious, costly, and not wanted. But the Society can, and we think ought, to place itself in touch with shows as good as itself could provide, and make some grants that would cost little but mean much in the centres to which they might be from time to time allocated.

Such recognition on the part of the central society would be the more effective and appreciated if in a few instances yearly a deputation composed of members of Council and Committees could attend and award such honours as might be provided; and further, if on the occasions of such visits evening conferences could be arranged, we should be surprised if horticulture would not become a greater force in the country than it is now, in a very few years. It has not yet been shown that there is anything material to lose, while there may be much to gain in any efforts that might be made for the expansion of the Royal Horticultural Society, on a moderate scale and in a tentative manner at first. This at least would be a safe way, and we suspect there is not much fear of a headlong rush; at the same time, we have no reason to apprehend any stubborn reluctance on the part of the powers that be to entertain any proposals of a practical nature towards making a start in the direction indicated. A start is what is wanted.

Where this start is to be we should like to feel depends on an invitation that might be received by the R.H.S. from a provincial centre. It is rumoured that a disposition exists at Chester to desire the attendance of the Royal Horticultural Society on the occasion of the great horticultural fête that is to be held in the ancient city during the summer. We feel certain if such invitation were received in Victoria Street that it would receive sympathetic attention, and we should be more than a little surprised if it did not meet with acceptance. We have endeavoured to obtain definite information on the point, but it would appear that the moment has not arrived for imparting it. We have gathered from Chester that there are grounds for the rumour, and from Victoria Street that a favourable view is taken of some of the propositions which have been made in our columns. What these favourable propositions are has not transpired. We will epitomise a few of them.

1, That the R.H.S. should be more widely representative of

national horticulture by provincial societies nominating a member to serve on one of the London Committees, and providing him with the means for attending occasionally.

2, That certificates should be granted at local shows, in conjunction with a sub-Committee from the chief Society, and rank as R.H.S. certificates.

3, That moveable National Conferences of representatives of horticultural societies should be held annually under the auspices of the R.H.S.

4, That deputations from the R.H.S. should attend provincial shows, and award honours to specially meritorious exhibits.

5, That a code of action should exist between Societies affiliated with the R.H.S., which should also sanction the Judges, who should then have power to grant certificates, to be of equal weight to those of the R.H.S.

6, That the Royal Horticultural Society should not be a mere name in the provinces, but a reality, by attending shows and granting awards to meritorious exhibits; it should also lead the way in all horticultural matters.

7, That a meeting of metropolitan and provincial horticulturists interested in the expansion of the Royal Horticultural Society be held in London on the second day of the Temple show.

8, That branch county committees of Fellows of the Royal Horticultural Society be formed to work in co-operation with the head Society in London, reporting the proceedings to it and through the Press after the manner of the London meetings.

Those are a few of the propositions that have been advanced. There may be more, but sufficient is said for showing that a widespread desire exists for a greater Royal Horticultural Society. Metropolitan it must of necessity be, but this need not in any sense prevent its being more broadly national.

THE CULTURE OF PRIMULAS.

To grow Primulas to perfection requires an amount of care which few persons take the trouble to bestow on them, but when well grown they are amongst the most useful and beautiful of our greenhouse plants. When we consider they can be had in bloom from November till March, or even later, I think they are worth all our time and trouble, as they so amply repay us during the dull winter months.

I will give in detail my method of growing Primulas in the hope that the system may help others who have not as yet given these plants the attention they deserve. One of the main points is, I think, an early start, so as to give the plants plenty of time to develop by the autumn, therefore I sow the seed the first week in February; of course, a later sowing can be made if it is thought necessary, but the early sown plants will flower for a long time, and answer all practical purposes if properly managed. The soil I have found most suitable for sowing the seeds in is a mixture of equal parts of loam and leaf mould, and half a part each of silver sand and wood ashes, or old mortar rubbish. The compost ought to be passed through a fine sieve, and the pots or pans must be perfectly clean and well drained. Fill the receptacles to about three-quarters of an inch of the top, make the surface smooth and even, place on the floor, and give a thorough watering through a very fine rose, let them stand a few hours, then scatter the seeds evenly over the surface, just covering with very fine dry soil.

Sowing being completed the pots should be placed in the stove or plunged in a gentle hotbed, and be covered with sheets of glass, and over this some brown paper to exclude the light. Under these conditions the seeds will germinate in from ten to fourteen days, but they do not all do so at one time. As soon as the seedlings appear above the soil, remove the paper and tilt the glass, eventually removing it altogether, but shade from the sun. When the first rough leaf has been made prick out the young plants in shallow boxes filled with the same compost as that in which they were sown. Place the boxes close to the glass in a warm house, where the temperature is kept between 60° and 70°, till they become established, then remove to cooler quarters.

The first potting in 2½-inch pots should be done when sturdy little plants have formed, using the same compost as before, still keeping the plants in the greenhouse until the roots have a firm hold of the soil, when, if the weather permit, they ought to be transferred to a cold frame, the bottom of which is a bed of sifted coal ashes. Afford air on favourable days, but avoid cold draughts,

and as soon as the roots reach the sides of the pots the plants will require another shift into 4-inch pots. Later on they will require another and last removal into 6-inch pots, which are quite large enough for all ordinary purposes. The soil for the two last shifts should be of a richer character, and may consist of good fibrous loam one part, half a part each of leaf mould and horse droppings, a third of a part of old mortar rubbish and of silver sand, adding a sprinkling of bone dust and soot. At the final potting a small handful of sand ought to be put round the collar of the plant before filling up with soil, which keeps the stem dry and prevents damping off at that point. Keep the plants near the glass, and allow plenty of room in the frames, also giving free ventilation.

The utmost care must be exercised in watering. The plants should never be allowed to flag, and at the same time they must not be saturated. I go over them every day, tap each pot, giving a thorough soaking when it is required. Let them have all the light possible, but shade from the sun with light tiffany in the middle of the day. In the afternoons of fine sunny days give them a light syringing, and close the frames early, putting a little air on afterwards. On fine nights in August and the early part of September remove the lights altogether, as the heavy dews which generally prevail at this season have an invigorating influence on the plants. At the end of September remove the plants from the frames to a light position in the greenhouse, standing the pots on a moist base in preference to a latticed stage.

The plants will now be pushing up their flower stems (any flower that may have appeared before this time should have been pinched out), and to assist them a little weak liquid manure may be given occasionally, soot water being very beneficial. With the above treatment the plants will push up one tier of flowers above another until they become perfect pyramids of bloom, which will reward the cultivator for all his care and be the admiration of everyone who sees them.

Varieties that I have grown and can recommend are whites—Snowball, of strong habit, fine foliage and large flowers; Cannell's White, beautiful pure white flowers, heavily fringed; Pearl, another very fine white, and alba magnifica. Amongst the coloured I can strongly recommend Magenta Queen, which is a robust grower, with large flowers of a beautiful colour; Chiswick Red, very fine dark red; Cannell's Giant Pink is a good companion to Snowball; rubra superbissima, similar in habit to alba magnifica, but the flowers are large and heavily fringed. The best so-called blue that I have grown is Clibran's Oldfield Blue. This variety is a strong grower, with large flowers, and looks well amongst the others. Fern-leaved varieties, Sutton's Gipsy Queen and Purity are very handsome; and for semi-doubles I would strongly recommend Firefly, red; Empress, pink; Sutton's Double White and Clibran's Double White.—JAMES FERGUSON, *Manchester*.



CATTLEYA TRIANÆ ALBA.

THOUGH this plant cannot be termed new it is extremely rare, and consequently attracted much admiration when it was staged by Mr. Wm. Bull, King's Road, Chelsea, at a meeting of the Royal Horticultural Society held in the Drill Hall, Westminster, on the 14th ult. The examples exhibited were splendidly grown, and carried flowers of perfect form and great substance. As may be seen by the woodcut (fig. 17) the shape of the flower is exactly that of the type, from which it differs only in colour. The colour is pure white over the whole of the organs with the single exception

of a blotch of yellow on the centre of the lip, which certainly does not detract from the chaste beauty of *C. Trianæ alba*. The Orchid Committee of the Society unanimously awarded Mr. Bull a first-class certificate.

REPOTTING AND SURFACING ORCHIDS.

EVERY month in the year brings its own especial work to the orchidist, and but few months pass in which there is no repotting to be done or surface dressing. The present and succeeding two months may, however, be considered the busiest in this respect, and it is quite time that all arrears of work are brought up to date, and a good stock of all materials likely to be wanted got ready. Not only the materials for the compost, such as peat moss, charcoal, loam, and others are wanted, but a look through the stock of baskets, pots, labels, stakes, and those other supplementary



FIG. 17.—CATTLEYA TRIANÆ ALBA.

articles is necessary, or probably there will be hindrances later on when the work ought to be in full swing.

The weather at the time of repotting all classes of Orchids ought to be watched, especially where the potting shed is unheated, for to take the plants out of the house when the external air is frosty and keep them about in a cold draughty shed is about the worst thing that could be done. Even when the shed is kept at a fairly high temperature the plants are frequently checked on the journey thereto from the houses, and here we always make use of a large covered box for the purpose of transit, placing it on a handbarrow after being closed inside the house. If no heat is afforded in the shed it is better to pot the plants in their respective houses than to run the risk of checking them described above. There will be no need of disturbing the house much, just clearing a convenient piece of stage and lay some board on it, or, better still, have a small temporary bench constructed that may be moved about to the different houses as needed.

This ought to be about a yard, or a little more in length, and half that width, and a piece of thin board should be nailed round three sides of it, standing up about 5 or 6 inches, to prevent the materials falling off. All pots will, of course, be provided with drainage before being brought into the house, and a box to hold the old crocks and rubbish will also be required. The peat and moss may be prepared outside, but should be brought in some time before it is needed, so as to get gently warmed before coming into contact with the roots.

Where there are a great many plants of one kind to be repotted it is, perhaps, as well to have the compost all ready, the peat moss and charcoal mixed in proper proportions before commencing; but if the plants are of a miscellaneous character it is better to have

each ingredient separate, and mix just what is required in the proper ratio for the plant in hand, or in some cases mixing only the peat and sphagnum, and adding the crocks or charcoal, loam, or whatever else is wanted as the work proceeds. An advantage accruing from this mode of procedure is that the material gets used more regularly, fine and rough together, thus saving waste, and each plant is treated alike.

For the purpose of this note Orchids may be roughly divided into three classes—viz., the distichous-leaved kinds as represented by *Aërides*, *Saccolabiums*, *Vandas*, *Angræcums*, *Phalænopses*, and a few others; the pseudo-bulbous and ordinary epiphytal section, such as *Odontoglossums*, *Oncidiums*, *Dendrobiums*, *Miltonias*, *Brassias*, *Cattleyas*, *Epidendrums*, *Lælias*, and the like; and the terrestrial species and genera, including those that although naturally epiphytal are found to thrive better in a sound and more substantial rooting medium than Orchids generally like. Of these *Cypripediums*, *Calanthes*, *Phaius*, *Disas* and *Thunias* need only be named.

The roots of most of the first division thrive well in almost pure sphagnum moss, only a little charcoal, ballast, or some similar hard incompressible material being added to insure a free passage for air and water, and for the roots to cling to. The stronger, more vigorous kinds, do well in large pots or flat baskets, and when healthy and well established will stand a fairly thick layer of material. The weaker species cannot endure this embedding of their roots, and like small baskets with only sufficient moss just to cover them, the rest of the basket being filled with drainage.

The kinds named in the second section are much more variable in their likings as to compost, size of pot, and other details. There can be no strict rule laid down here, the varying types of root and habits of species must be studied and catered for. Some kinds, such as *Cattleyas* of the labiate type and similar species, the Brazilian *Lælias*, some of the evergreen *Dendrobiums* and *Zygopetalums*, seem to require a well aerated rough compost, while many of the twining, interlacing roots of *Oncidiums*, *Odontoglossums*, *Masdevallias*, and the deciduous *Dendrobes* are better suited in as small pots as possible, the compost being also used in a finer condition. An instance of another class of root is found in such as *Dendrobium macrophyllum* or *nobile*, that are best suited in a deeper make of pot and a thicker though rough compost. The quality of the compost will also differ of course, the majority liking peat and moss in varying proportions, some liking a little loam while others are found to be more satisfactory if a small portion of manure is added. These in detail cannot here be dilated upon, but will be better mentioned when treating of individual kinds.

The terrestrial kinds nearly all require loam in the compost, and as most of them delight in copious water supplies, the drainage must be very carefully attended to. The amount of loam will, of course, vary, and the other constituents will be found in peat fibre, moss, leaf mould, and in some cases dried cow manure. Pots and flat shallow pans are generally used for these, and the semi-terrestrial *Cypripediums* and others. All should be placed firmly in their pots, so that they cannot rock about; and the epiphytal section should have the mounds of compost neatly trimmed off otherwise it is not easy to determine whether the plants are dry, or not.—H. R. R.

HARDY FLOWER NOTES.

Now does the lover of early flowers begin to see the fulfilment of his hopes, for the garden is astir with the new life of its occupants. In beds and borders and in the rock garden the green points of many plants are piercing through the dark coverlet which has sheltered them since they dropped to sleep last year. With the fearlessness and innocence of youth do they appear as if no rough hand nor biting blast would dare to despoil them of their coming beauty. These springing flowers have sent even more fearless ones before, which, when we see them, remind us of the thought of Shelley in his poem on Spring:—

“ . . . Thou art the child who wearest
Thy mother's dying smile, tender and sweet;
Thy mother Autumn, for whose grave those bearest
Fresh flowers, and beams like flowers, with gentle feet
Disturbing not the leaves which are her winding sheet.”

For these early flowers deck the resting place of the autumn plants, and take from it the gloom it would otherwise wear, reminding us that as they rose again from the cold black earth, so shall these autumn flowers once more delight us. There is, then, something inspiring in the aspect of the garden now, though there is little sun and no great masses of warm colour.

The Snowdrop nestling at the hedge roots, in the grass, in the borders, or in the rock garden, has now, however, gayer companions;

for the Crocus—in gold, in varied shades of blue, or in garments adorned with pretty stripes and featherings—awaits the wooing of the sun to display its charms to the world. The pink and white Winter Heaths, known as *Erica carnea* and *E. herbacea*, or *E. carnea alba*, are now wreathed in blossoms, beautiful alike in form and in colour—qualities which have made them indispensable in any garden claiming to have a collection of early hardy flowers. Delightful are these Heaths and much admired, growing by moss-covered stones on the rockeries, where year by year they increase in attractiveness. They can be removed at almost any time, and a small piece taken off with root attached and planted in sandy peat will soon become a neat plant.

The charming little *Saxifraga apiculata* has opened many of its primrose or sulphur-coloured little flowers, and many are yet to come to prolong its blooming time for many a day. It flowers very well with me in a pocket of peaty soil and grit on a rockery facing almost due west. In a contemporary some time ago I observed a remark by no mean authority on hardy flowers, to the effect that this Rockfoil should be frequently divided to induce it to flower, as it did not bloom so freely if allowed to grow into a mass. I must take exception to this, as it flowers very freely with me, although mine is now a large plant growing over the limestone which divides the rockery into pockets. It is almost needless to say that a good sized plant is much prettier than a number of small ones. The mass of greyish-green foliage, surmounted by its spikelets of pale primrose-coloured flowers, is exceedingly pleasing. It may be remembered that this Rockfoil was formerly known as *S. Frederici-Augusti* and *S. luteo-purpurea*, and has also been known as *S. luteo-viridis*, but Engler's name of *S. apiculata* is now accepted as correct.

The bright crimson flowers of *Cyclamen Coum* are now cheery looking on shady rockwork, and give a welcome bit of colouring not to be found in any other flower yet in bloom. Those who prize this little “Bleeding Nun” in their gardens can hardly understand the utilitarian spirit which gave it the old popular names of Sow-bread and Swine-bread. No doubt it is a favourite with the porcine race, but we cannot but think we have gained something in respect of names when we can find a substitute for “Sow-bread.” These hardy *Cyclamen* of various species are not nearly well enough known, and even when out of flower their pretty leaves attract attention by their beauty. A mass of *C. neapolitanum*, nestling at the base of a small rockery under a Lilac, is at present most beautiful, with the leathery green leaves of varied contour marbled in a charming way. The ordinary *C. Coum* has an orbicular leaf, which is free from marking, but a zoned-leaved form which I got from Bithynia is even more attractive.

The *Leucoiums* or Snowflakes are astir, and prepared to contest all comers in the tournament of beauty. The earliest here is always the form of *L. vernum* which Mr. J. G. Baker tells us is *Vagneri*, and which for convenience sake I call the Twin-flowered Spring Snowflake. It is, however, being closely followed by a few plants in a clump of the ordinary *L. vernum*, which are favoured with a more sheltered nook in the garden, and are taking full advantage of the greater cosiness by trying to rival *Vagneri*'s Snowflake in time of blooming. *L. v. Vagneri* is often sold as *L. v. carpathicum*, which has yellow instead of green spots. Those of *L. v. Vagneri* are deep green, and contrast well with the purity of the white which forms the groundwork of the large and beautiful flowers. The Spring Snowflake needs to be more recognised, as the genus is known to many only by the Summer Snowflake (*L. æstivum*), which is not nearly so beautiful nor so desirable.

Of the Crocuses in flower one may be selected for notice at present, although many equally beautiful are ready to expand their cups. This is *C. ærius*, an exquisite little Crocus, several corms of which came to me from Bithynia two or three years ago. It is now beginning to increase a little, and I see also one in bud from seed of this Crocus and *C. gargaricus*, which had been collected together on Mount Olympus, near Broussa. The few plants which flowered last year showed some variation in colour, although several I received as *C. ærius albus* disappointed me by having no trace of white in the colouring of the flowers. This species is found, according to Mr. Baker's “Handbook of the Irideæ,” “on the mountains of Armenia, Bithynia, Lazistan, and probably also Kurdistan, ascending to 6000 or 7000 feet, where it flowers about May, although here it blooms in February and March. Mr. George Maw placed *C. ærius* in the division *Nudiflori*, or species without a basal spathe, and in the section *Annulati*, having the basal tunic of the corm separating into annulæ or rings. In Mr. Baker's arrangement, however, this Crocus is included in the section *Holostigma*, having the style branches entire. The flowers vary, as I have said, somewhat in shade of colour, but are what may be called a “bright bluish purple,” and the outer segments appear to vary also, some being feathered or blotched with dark purple at the base and others are almost altogether of a dark purple colour. The anthers are

bright orange, and the stigmata are orange-scarlet. The leaves begin to appear at the flowering time.

I expected to find among *C. ærius* some *C. cancellatus*, but have not done so, although some may come among the unflowered seedlings from the seed collected on the mountain. Mr. George Maw makes the interesting observation in speaking of the flower-colouring of variations from the types, that "the form of *C. cancellatus* found on the Bithynian Olympus, where it is associated with *C. ærius*, puts on the exact colouring of *C. ærius*; furthermore, there is a complete set of variations in the markings of the flowers of *C. cancellatus*, exactly mimetic of the variations in colour of *C. ærius*, with which it is associated." I had hoped to obtain some of these interesting varieties, but unfortunately my correspondent has left Broussa, and I have been unable to follow up the matter.

Enough has, perhaps, been said of the Crocus at present, but in passing one may mention that among those in flower are *C. tauri*, *C. Imperati*, *C. Fleischeri*, *C. aureus*, *C. ancyrensis*, *C. chrysanthus*, *C. c. fusco-tinctus*, *C. c. fusco-lineatus*, *C. Sieberi*, *C. vernus leucostigma*, *C. gargaricus*, *C. versicolor*, *C. biflorus*, *C. biflorus argenteus*, *C. b. estriatus*, *C. pusillus*, *C. Tommasinianus*, and a few others of more or less rarity.

The Squills are coming on quickly, and before this appears *S. bifolia* Whittalli, *S. b. grandiflora*, with the typical *bifolia* and two or three others, will be in bloom. The Glory of the Snow is also on the way, and the varieties of *Iris reticulata* are nearly ready to open. There are some flowers, however, the Tulips among the number, which do not seem to be making the progress one would anticipate. We do not wish, though, to have all our early flowers at once, but can rest content in the variety given us by the Snowdrops, Snowflakes, Crocuses, Aconites, Primroses, Anemones, Cyclamens, and other flowers which make so attractive a garden in the dawning of spring.—S. ARNOTT.



SHEFFIELD CHRYSANTHEMUM SOCIETY.

ON Saturday evening, February 1st, the annual dinner of the above Society was held in the large dining hall of the Masonic Buildings, Surrey Street. The President, C. E. Jeffcock, Esq., was in the chair, supported by Mr. W. A. Milner, Mr. J. Ellison, jun., Dr. Littlejohn, Mr. A. S. Jarvis, Mr. H. J. Jones (Ryecroft Nursery, Lewisham), Mr. Wm. Housley (Secretary), Mr. J. Haigh, Mr. J. G. Newsham, Mr. J. W. Jarvis, Mr. G. W. Cuckson, Mr. P. Peck, and delegates from Leeds, Rotherham, Wakefield, Sheffield Floral Society, and Walkley Gardeners' Improvement Society. Ninety-seven guests sat down, and it was pleasant to observe that a large proportion was composed of practical gardeners anxious to show their interest in and sympathy for the objects of the Society. The tables were profusely decorated with spring flowers arranged in the best taste, the beautiful and chaste *Narcissi* predominating, and every guest was presented with a buttonhole bouquet appropriate for the occasion. Clever songs and sketches alternated with crisp and pointed speeches, rendered the whole proceedings most enjoyable.

After the usual loyal toasts had been honoured, Mr. J. Haigh proposed the "President, Vice-Presidents, and Patrons of the Society," especially referring to the ready assistance and counsel accorded to the management by the President. Mr. W. A. Milner, a well-known floriculturist, responded on behalf of the patrons. He hoped the Society would continue to prosper and carry on its good work. He was pleased to meet so many who, like himself, were interested in the culture of flowers and plants, and he thought that the people of Sheffield ought to feel grateful to the Society for encouraging the growth of that wonderful flower, the Chrysanthemum, which came to cheer them in the dark days of winter. He was especially pleased to hear that the Society was in a flourishing condition, that the membership was increasing, and that the shows were improving, notwithstanding their general excellence. He hoped the Society would continue to prosper, maintain its popularity, and carry on to a greater extent its good work.

Mr. T. Garnett proposed the "Sheffield Chrysanthemum Society." Going back about fifteen years to the Chrysanthemum shows of that date, held in a comparatively small room at the Cutlers' Hall, he compared them with the later exhibitions, showing the immense strides which had been made in the cultivation and improvement in size and quality of the blooms of to-day; and as a natural consequence the greater interest and delight taken in the exhibitions. Sheffield especially held an important position in the Chrysanthemum world, from the fact that Society a few years ago had invited the National Chrysanthemum Society, the acceptance of that invitation by the National Society had

evidently given an incitement to the Committee to make Sheffield show one of the most important in the North of England. He urged the Committee not to relax their efforts, and to maintain the high place which their past efforts had placed them. Referring to the monthly meetings the speaker alluded to the good work done there, and could not refrain from paying a tribute of respectful admiration to their esteemed Treasurer, Mr. H. Broomhead, who had so generously provided them at his own cost such a useful library of books on horticultural subjects.

Mr. Housley, the courteous and energetic Secretary, responded to the toast. He said they were proud of the prominent position their Society held, and hoped to maintain it. They were pleased to have the company of Mr. H. J. Jones, who had paid the Society the high compliment of naming one of his best new seedling Japanese Chrysanthemums after their esteemed President.

Mr. J. G. Newsham proposed the "Visitors and Kindred Societies," which was responded to by Messrs. M. J. Ellison, W. G. Cuckson, and Dr. Littlejohn, Medical Officer of Health, who stated from experience he knew that such societies as theirs exercised a very great educational influence, more perhaps than the members thought, fostering a taste for habits of tidiness and cleanliness. They could not grow flowers in a bad atmosphere—they must have ventilation, and the mere fact of having an interest in flowers tended in the direction to good, and must have a beneficial effect on children. Sheffield abounded in dingy courts and yards, therefore the greater need to stimulate the inherent love of flowers, and if flowers were unattainable, better a green sod than all pavement or asphalt.

Mr. J. W. Jarvis proposed "The Nurserymen and Non-competing Exhibitors." Mr. H. J. Jones responded, paying a high compliment to the management of the Society, which he considered held a front rank in the shows of the kingdom, and before long it would claim position in the first six. That would be no mean position to hold at the present day.

Other toasts followed, and Messrs. G. Elsey (Nottingham), A. E. Copley, H. Goodinson, M. H. Williford, T. Brewer, J. G. Newsham contributing songs and recitations. Mr. J. Owen accompanied, all adding greatly to the enjoyment of those present.

It is satisfactory to find that the finances of the Society are in a healthy state, the income of the past year having been £360 7s. 5d. and the expenditure £293 8s. 1d.; balance in favour of the Society, £66 19s. 4d., which is an increase on that of the preceding year.

DISQUALIFICATION AT GLASGOW.

WE thought we had heard the last of Mr. Elton, but he crops up again. We will not bandy words over the question of measurements, as the boards are still here to be measured by anyone interested; but the remark as to "competing with gardeners and amateurs in Class 1" needs explanation. This class, the first and principal one in the schedule (£10 prize) is headed in bold type "Open to all," being the only one so distinguished, and was, we presumed, in our ignorance of local feeling, intended to provoke a good competition by making it worth while for growers from a distance to enter, whether nurserymen, gardeners, or amateurs.

We did not notice Class 28 (the only one set apart for nurserymen); but had we done so we should not have entered where we did not expect to encounter good competition, the prize being barely sufficient to cover travelling expenses from any distance. The real "hub" of the matter, which has been freely discussed at some of the shows, but which contributors to the Press fight shy of, is the petty jealousy of some of the smaller (minded) exhibitors at the trade entering the lists. The front rank are above this, and welcome a new competitor with the honourable feeling of "The more the merrier," and "The hotter the fight the greater the honour;" but it is not so all through, as the exhibition habitués know well. However, we consider that nurserymen have as much right to exhibit Chrysanthemums as Roses, and shall persevere in the course we have adopted in the hope that another year or so will see us joined by others, so that a good class may be formed at the principal shows for "nurserymen only" if the managers see fit to do so.—J. R. PEARSON & SONS, *Chilwell Nurseries, Notts.*

CHRYSANTHEMUM GROWING.

A CHAT WITH BEGINNERS.

IN an article recently published in this Journal, I referred to a number of curious facts concerning the history of the Chrysanthemum, only touching upon its culture to a very slight extent. At that time I dealt with the subject more from a popular than a purely horticultural point of view. The culture of the Chrysanthemum in its different stages has been dealt with often enough by hands more competent than mine, I therefore propose in this article to simply touch on a few points of, I think, some interest and importance to the great body of my readers.

There can be no doubt that the popularity of the Chrysanthemum is still on the increase among both professional gardeners and the general public. Almost every gardener has by now made up his mind to grow at least "a few stems" during the coming season, and employers of gardeners are beginning to see that a smaller number of blooms of finer quality make a more striking display in the conservatory than weedy "bush" plants, allowed to run comparatively wild and bear as many flowers as they choose.

Even for cut purposes three or four moderately good blooms in a

vase are certainly more effective than a bunch of insignificant formless "buttons." To say that every grower should go in for "show" blooms would of course be absurd, but an effort should be made to produce flowers large enough to bring out the characteristics of each variety, otherwise William Seward is no better than Julie Lagravère, and Golden Gate no better than the most rubbishy seedling ever raised from a shilling packet of Continental seed.

VARIETIES FOR CUTTING.

It is of course quite different in the case of certain varieties grown exclusively for cutting purposes, and here I will mention a few sorts suitable for growing in this manner, confining myself to the very early and the very late. Of the former Yellow Selborne, Lady Selborne, and Mons. W. Holmes are three good varieties of distinct colours, and come in most useful during October. For late blooming I have found E. G. Hill by far the best yellow, it being of a strong dwarf habit, and bearing its deep golden flowers on long sturdy stems. W. H. Lincoln is often referred to as a good late variety, but it bears its blooms on the stems in a manner not very convenient for cut purposes. E. G. Hill is very late, coming in naturally at Christmas and lasting well on through January. Niveum is a grand white of graceful free habit and most free blooming. This variety should be rooted early and pinched three or four times during the season. Putney George is the best late crimson I know, but there is room for a good Christmas flowering variety of this colour. Mrs. Marshall is an invaluable late white, and does best when grown on a second year. Its waxy blooms are quite unique in quality. Princess Victoria and Princess May appear to bloom very late indeed when pinched, but I have not tried either in quantity. All these varieties, if grown for cut blooms, must of course be kept pinched until about the middle of July. They need not of necessity be rooted late, in fact the earlier the better, as larger plants and more blooms are the result, the pinching retarding them sufficiently. It is not wise to risk the late varieties outside too late in October. Far better to get them under cover, no matter how slight, during the first or second week of that month.

STARTING THE PLANTS.

Many gardeners who have been recently promising themselves that they will have "a few big blooms next autumn" fail to fulfil that promise through neglect at the start. The cuttings are inserted in December under the influence of enthusiasm aroused by recent exhibitions, and placed either in a cold damp pit, or in a close stagnant propagating house, where a few root and the large majority "damp off." Now, if there is a time when Chrysanthemums require daily attention it is at this early stage. I prefer to root cuttings in a gentle bottom heat as near to the glass as possible, and in a compost containing a little peat. They should be looked over every day, and any that appear to be rooting removed to a more airy situation at once. A little practice will enable one to detect those that are "struck" almost to a day, and it is very important that they should not be allowed to grow in the comparatively close atmosphere essential to their forming the first roots. Any which are flagging—and some sorts will flag—should be encouraged by being placed beneath a bell-glass, removing it, however, for an hour or so each morning until when the leaves stand up stiff and remain so, it can be removed altogether.

Many sorts—Val d'Andorre, Lilian Russell, Excelsior, and Col. W. B. Smith, for instance—root within a week without flagging at all, whilst Etoile de Lyon, Edwin Molyneux, Lord Brooke, and many others require three weeks or a month under the same treatment before it is safe to remove them to more open quarters. This variation of rooting power in varieties necessitates daily attention. It is always wise to root about twice as many cuttings as are absolutely needed, as then the best plants can be selected for growing and the remainder destroyed. It is of the utmost importance that from the moment the plants are rooted they should receive all the air possible. More collections are ruined by being kept too close during the first few months of the year than by any other cause. Once let the plants grow weak and spindly and irrevocable mischief is done. They will never become strong and sturdy afterwards.

NEW VARIETIES.

It is a very great mistake, as all growers of any experience know, to discard a novelty because it does not come up to expectation the first season. Different seasons suit different varieties. This is clearly shown by the variation in popularity on the show boards of the best sorts. For instance, Robert Owen was in grand form last November all over England, and yet it was scarcely to be seen the previous year, although just as widely grown. With Lord Brooke, on the other hand, it was *vice versa*. In 1894 Mdle. Thérèse Rey and L'Isère were in excellent form; whilst in 1895 Madame Carnot and Madame Ad. Chatin were in the ascendant. This is not altogether owing to novelties surpassing old varieties, and it is quite possible that Madame Carnot, which is admitted generally to have been the best white shown last autumn, may be almost unrepresented on next autumn's show table, in spite of the fact that everyone is growing it this year. The same with yellows, of which there are such an overwhelming number. Mons. Panckoucke, Duchess of Wellington, Golden Gate, and Robert Owen are about the best up to date. Next year it is possible that the despised Duchess of York, which caused disappointment last autumn, may surpass them all. It depends upon the weather of the coming season.—F. C. SMALE, *Torquay*.

(To be continued.)



EVENTS OF THE WEEK.—On Tuesday the Royal Horticultural Society will hold a meeting at the Drill Hall, James Street, Westminster, when it is expected that a new system of glazing will be brought before the Committee by a gentleman from Jersey. In the afternoon, at three o'clock, the annual general meeting of the members of the Society will be held in the Lindley library, 117, Victoria Street, about two minutes' walk from the Drill Hall.

— THE WEATHER IN LONDON.—The weather has been uniformly fine during the past week. Light frosts have followed occasional bright days, and although there has been little sun on others, no rain has fallen, and the ground is in an excellent working state. The dryness of the atmosphere has arrested vegetation, which otherwise must have been more advanced under the abnormal mildness that has prevailed so long.

— WEATHER IN THE NORTH.—For two weeks the weather has been unseasonably mild. January closed with two brilliant days, its last day being especially fine. The first two days of February were also good, with a slight touch of frost on Sunday night. Monday and Tuesday were duller, but calm, and a slight drizzle damped the afternoon of the latter day, when the barometer, still high, showed an inclination to fall.—B. D., *S. Perthshire*.

— READING HORTICULTURAL SOCIETY.—At the thirty-ninth annual meeting of the Reading Horticultural Society, held last week, the financial statement showed that the balance brought forward was £122, the receipts amounted to £570, including takings at the spring show of £28, summer show £201, subscriptions £176, donations of special prizes £35. The expenditure amounted to £479, including prizes at the spring and summer shows £211, bands at both shows £81, leaving a balance in hand of about £91.

— VEGETABLE PRIZES AT THE NATIONAL CHRYSANTHEMUM SOCIETY'S JUBILEE EXHIBITION.—In addition to the valuable special prizes for vegetables offered for competition at the above exhibition in November next by Messrs. Carter & Co., E. Webb & Sons, Dobbie & Co., W. W. Johnson & Son, Ltd., T. Harrison & Son, and others, the particulars of which are set forth in the preliminary schedule of prizes just issued, Messrs. Sutton & Sons add valuable cash prizes for fifteen dishes of Potatoes, distinct, to include several of their novelties; and also for two dishes, one each of Supreme and Windsor Castle. This promises to be one of the most extensive and interesting exhibitions of vegetables yet held in London.

— FLORAL INTRODUCTIONS.—We have received from Messrs. J. Carter & Co., High Holborn, a list of the plants—principally annuals—that have been placed in commerce by them. It appears from this that the work commenced in the year 1887, and that it has been going on continuously from then until the present day. Many of the plants are amongst the most popular at the present time, and are moreover of such nature as to warrant the assertion that they will continue so. Space precludes our publishing the entire list, but a count shows that we are indebted to this firm for 155 introductions, almost all of which have emanated from the seed trial ground in Essex.

— DR. MORRIS IN THE BAHAMAS.—It is gratifying and inspiring to hear of the Assistant Director unfurling the flag of Kew, if we may so speak, not only in our colony of Bahamas, but in New York itself. Dr. Morris turned a winter holiday to account by visiting the Bahamas with a view of developing the vegetable resources of the colony, and of promoting the culture of the valuable Sisal Hemp. According to a contemporary, his lectures were attended by the Governor and the leading citizens, and there can be no doubt that good results will follow. In New York, a descriptive and illustrated lecture was given on the Royal Gardens at Kew, which was specially appropriate in view of the establishment of a similar institution in the vicinity of New York. Dr. Morris, it appears, visited the proposed site, expressed his approval of it, and took the opportunity to wish God speed to the enterprise on the part of the botanical institutions of the Old World. Before leaving the city he was entertained at dinner by the President and members of the Torrey Botanical Club.

— ROYAL INSTITUTION.—Professor H. Marshall Ward, F.R.S., Professor of Botany in the University of Cambridge, will begin a course of three lectures on "Some Aspects of Modern Botany" at the Royal Institution on Thursday next, February 13th.

— EALING DISTRICT GARDENERS' MUTUAL IMPROVEMENT ASSOCIATION.—Since its inception this Society has done much good work amongst the gardeners, young and old, of the district in the neighbourhood of Ealing. At frequent intervals papers have been read by experienced men on subjects relative to the craft, and these have been greatly appreciated. Several special prizes are offered for exhibits and essays, of which particulars are given in the present season's arrangements. The annual fee of membership is small, and if particulars are desired they may be had from the Hon. Secretary, Mr. W. Roberts, North Common Road, Ealing, W.

— WAKEFIELD PAXTON SOCIETY.—Notwithstanding the damp and uncomfortable state of the weather on Saturday, the 25th ult., a large audience assembled at the usual weekly meeting of the members of the Paxton Society. Lieut. Goodyear presided, and Mr. W. Tunnicliffe of The Poplars was in the vice-chair. The lecturer was Mr. J. Swire, head master of the Wakefield School of Art, and his subject was "Cambridge and the Isle of Ely." The lecture was illustrated by a large number of photographic views of Cambridge and Ely and the surrounding districts, and they were exhibited by means of a large lantern, cleverly manipulated by Mr. Harold Parkin, of York Street. As the views were thrown on the large screen by Mr. Parkin, many interesting details with respect to them were given by Mr. Swire, who has been much time sketching in the district as an artist. Some of his personal reminiscences and anecdotes were very amusing; the lecture was much enjoyed and the views highly appreciated.

— DAHLINE.—On page 86, "Reader" asks for information on the analysis of the Dahlia. The following is from Ure's "Dictionary of Chemistry," page 384:—"Dahline.—A vegetable principle discovered by M. Pazen, analogous to starch and inulin. To extract it the pulp of the bulbs of Dahlia is to be diffused in its weight in water, filtered through cloth, the liquid mixed with one-twentieth its weight of common chalk, boiled for half an hour, and filtered. The residuum of the bulbs is then to be pressed, the solutions united, and evaporated to three-fourths of their volume. Four per cent. of animal charcoal must now be added, and the whole clarified by the white of an egg. The liquor, filtered and evaporated until a film form on the surface, deposits dahline on cooling. All the washings are to be treated in the same way, and thus 4 per cent. of dahline will be obtained from the bulbs. This substance, when pure, is white, inodorous, pulverulent, tasteless; specific gravity, 1.356; more soluble in hot than cold water, not soluble in alcohol, but precipitated by it from aqueous solutions. It differs from starch and inulin in forming a granulated mass when its aqueous solution is evaporated, as also in its specific gravity. Mons. Braconnet has discovered dahline in the Jerusalem Artichoke. He considers it merely a variety of inulin."

— YORK SHOW.—We have received the schedule of prizes offered on the occasion of the Grand Yorkshire Gala, Floral, and Musical Exhibition announced to be held on June 17th, 18th, and 19th. Prizes in the chief classes are offered on the same generous scale as heretofore, while a few new classes are added. The sum apportioned for prizes exceeds £700, and is £50 in excess of last year. Five prizes are offered for groups, in sums ranging from £20 to £5—total, £58. For specimen plants the prizes are £20, £14, and £8. A new class is provided for a collection of Clematises in pots, not less than twelve plants, with prizes of £12, £8, and £4. A £10 prize is apportioned to Carnations in pots, with smaller amounts to follow. A class is provided for the most tasteful arrangement of Pansies and Violas in glasses, and table space limited to 10 feet by 3 feet, with £4 as the leading prize; also a new class for a collection of Begonias arranged for effect, in space of 12 feet by 3 feet, first prize £5. There are various other plant classes, including, of course, Pelargoniums, for which the York show is famed. Orchids and cut flowers are well provided for, while good provision is made for fruit, £25 being allotted in four prizes for a collection of "ten distinct varieties, not to contain more than two varieties of any kind"—rather a novel condition—with a dozen other classes, Messrs. Sutton & Sons and Webb & Sons providing prizes for vegetables. Three gold medals (or value in money) are offered for nurserymen's collections of plants and flowers. An extensive and varied exhibition may be confidently relied on, and crowds of visitors from far and near.

— WORKSOP ROSE AND HORTICULTURAL SOCIETY.—The next summer show of this Society will be held on Thursday, July 9th, and no effort will be wanting on the part of the officials to make it a success. At the annual meeting of the Society, Mr. H. V. Machin was elected President, and Mr. G. G. Bailey, Secretary, for the present year.

— AN OLD VINE.—In the village of Kineton, Warwickshire, there is an interesting specimen of an outdoor Vine growing on a row of cottages spreading, if I recollect correctly, the entire length, and therefore it has no further space for development. I had the curiosity to step the length, and found its branches extended about 60 yards. One of the inmates of the cottages informed me it was supposed to be the largest or longest in England. Can anyone kindly inform me if this is correct? What about the Hampton Court Vine?—J. HIAM.

— CLIMATOLOGICAL OBSERVATIONS AT DRIFFIELD, JANUARY 1896.—Lat. 54° 0' 30" N.; lon. 0° 27' 15" W.; alt. 76 feet. Barometric pressure at 9 A.M. (at 32° and sea level): Highest 30.90 inch on 9th; lowest 29.15 inch on 15th. Mean temperature at 9 A.M. (corrected) 38.67°. Wet bulb 38.04°. Mean maximum 44.61°; mean minimum 34.42°. Highest 51.8° on 2nd; lowest 22.0° on 23rd. Mean of maxima and minima 39.51°. Mean radiation temperature on grass 27.96°; lowest 16.8° on 23rd. Rainfall 0.72 inch. Number of rainy days sixteen. Greatest amount on one day 0.16 inch on 13th. Mean amount of cloud at 9 A.M. (estimated), 6.5. — W. E. LOVEL, *Observer, York Road, Driffeld.*

— MODEL GARDENS FOR ABERDEEN ARTISANS.—The Gas and Electric Lighting Committee of the Aberdeen Town Council met on Friday, 24th ult., to consider what steps should be taken with respect to the vacant ground belonging to the Corporation in the vicinity of the Gallowhill gasholder. Mr. Smith, Gas Manager, submitted a sketch plan showing how the ground, which is 4 acres in extent, might be laid out as model gardens, each measuring about 360 square yards. The Committee resolved that the plan be adopted, and the plots let at from 15s. to 17s. per annum, without fencing or water. These rents are considered by practical men in the district much too high; indeed, they contend that, seeing the ground has to be taken in from the rough and fenced, the Council should give the ground the first year for nothing.

— DESTROYING INSECT EGGS ON FRUIT TREES.—I have read the remarks on this subject on page 73 with much interest, and perhaps I may be allowed to say a few words in addition. In my experiments in connection with the Evesham Fruit Pests Committee, I placed hundreds of female winter moths in confinement, where they laid their eggs, and it was interesting and useful to watch for the exact time of hatching in the spring, which usually occurs about the last week in March, and in the open at the beginning of April, so that there are several weeks when it will be perfectly safe for "J. F." to use Paris green and London purple before the buds expand to damage to bees. Then there are several weeks between the blossom falling and the clearing of the fruit and foliage by the caterpillars at the end of May. The eggs of *Psylla mali* are often mistaken for those of the winter moth.—J. HIAM.

— SHREWSBURY FLORAL FÊTE.—The annual meeting of the members was held at Shrewsbury on Wednesday, January 29th. In the unavoidable absence of the President, H. D. Greene, Esq., Q.C., M.P., the chair was taken by the Mayor. The report and statement of accounts read congratulated the members of the Society that the last year had been the most successful since its establishment. The receipts for the year amounted to over £4010, being an increase of about £270 above any previous year. The receipts included £450 in subscriptions, £500 for tickets sold before the show, £727 taken at the gates first day, and £1534 the second day. The expenses of the year amounted to £3015, and, included in prize money, medals, &c., actually paid, £770. The net profit on the year is about £1000. The Mayor congratulated the meeting on the fact that the show of 1895 was universally admitted to be one of the finest ever held in the provinces, and ventured to hope that the show fixed for August 19th and 20th, 1896, will even exceed the show of the last year in extent and novelty. During the twenty years the Society has been in existence the total receipts have amounted to nearly £50,000, and the Society has voted to public objects in Shrewsbury about £4000, and purchased land which is intended for public use at a cost of nearly £6000 out of the profits of the shows. It is a matter of congratulation that, notwithstanding at times very unfavourable weather, there has never been a loss on any occasion. Sir Walter O. Corbet, Bart., of Acton Reynald, was elected President for 1896.

— SIERRA LEONE BOTANIC GARDEN.—For the newly established Botanic Garden at Sierra Leone Mr. Frederick Enos Willey has been appointed as Curator. Mr. Willey has been in the employ of the Kew Gardens for some three years, part of which time was spent by him as Curator of the Botanic Station at Abusi, Gold Coast, during the absence of the late Mr. Crowther. Mr. Willey's manifested skill and experience are recognised by his appointment by the Secretary of State for the Colonies to this new post.—(*Kew Bulletin*.)

— RIPE CRANBERRIES IN JANUARY.—These are most unusual, but a contemporary says that some were gathered recently in Aberdeenshire. A spray bearing a number of perfectly grown and ripe fruits was gathered by Mr. John Cray, Boghead, Birse, some fifty miles from Aberdeen, up Deeside, near the roadside at the Forest of Birse. The ripening of this fruit at this time of the year is phenomenal, as Cranberries are generally ready for pulling about the month of August. The occurrence certainly illustrates the mildness of the season.

— POLYANTHUSES AT HAMPTON COURT.—Never since it first became the rule to fill numerous beds and a long narrow border in these gardens with Polyanthuses for the winter and spring, have the plants ever looked more fresh, robust, and promising than now. Apart from the comparative excellence of the strain, which still admits of much improvement, the filling up of the beds with these plants, Tulips of various colours being intersected amongst them, gives a pleasant touch of freshness and greenery to the beds that would otherwise be wanting. During the month of April they will repay a visit to Hampton Court, because in few places can greater quantities be seen, as there must be some 5000 to 6000 plants put out. When rich colours are added to the whites and yellows the effect will be much enhanced.—D.

— EARLY CABBAGES.—I herewith send you a Cabbage (Ellam's Early), and I think you will be of the same opinion as myself as to its earliness this year. It was cut on the 31st of January. In other seasons I have cut my first Cabbage about the middle of March. I also send you some Improved Batavian Round-leaved Endive, which has withstood our winter here wonderfully well. The plants are still where they were sown, as they keep better with me than lifting and storing in frames. I may say the winter here has been very open with the exception of 10° of frost on a few mornings.—WM. ROBERTS, *The Gardens, Peniarth, Towy, Wales*. [The Ellam's Cabbage was a capital little specimen, and, with the fine Endives, afforded conclusive evidence of the mild weather, combined with good culture.]

— PRIMULA OBCONICA.—Seeing a considerable number of this most useful Primula in a garden the other day, I inquired whether any one of the staff suffered in any way from handling it. I learned that the second man in the houses did so severely, his hands swelling and suffering exceedingly from itching. That was the only case there. This fact, one of many, goes to show that the irritant properties of the plants affect those persons only whose blood is in an impure state or particularly susceptible to irritation. No doubt these would escape that trouble if they wore soft gloves when handling or repotting the plants. Still, it is best whenever practicable to allow such work to be done by those who will not suffer, as the irritation is, if not painful, yet very distressing. Primula obconica is, however, far too useful a plant to be put aside because it needs special care in the handling.—D.

— PLANTS FOR WALLS.—The prettiest and best covered wall I ever remember seeing is in the well-kept gardens of Earl Manvers, Thoresby, where the back wall of a Palm stove fully 20 feet high is completely covered with Cissus discolor and Asparagus plumosus. The effect is charming and the sprays most useful to cut for decorative purposes.—T. H. CRASP, *Osberton*.

— FOR DAMP STONE OR BRICK WALLS IN THE STOVE HOUSE, there are few things prettier than the curious plant which is best known under the name of Marceravia paradoxa. It is an Aroid from Brazil, and in its young state climbs with its leaves so close to the wall that they look as if pasted on. The roots, says a writer in "*American Gardening*," take a firm hold of damp surfaces. The leaves are oval in shape; length from 3 to 6 inches. A simple way to start it on a wall is to drive in a few tacks or small nails, and fix the cuttings in place with copper wire, using a little sphagnum moss to encourage it to send out roots quickly. It does best in a house where the temperature does not fall below 60° F. Philodendron Andreanum fixed in the same manner is a good companion to it. This handsome species has the leaves shaped like the old Anthurium Waroqueanum, but, instead of being green they are of a deep olive colour.

— WEATHER IN GLAMORGAN.—The following is a summary of the weather here for the past month:—Sunshine, 47½ hours; there were seventeen sunless days. Total rainfall, 1.82 inch; greatest fall, 0.54 inch on the 24th; number of days on which rain fell, sixteen. Taken on the whole it has been a favourable month for all outdoor operations, with the exception of the week ending on the 24th and the last few days of the month, when the frost was very sharp.—W. MABBOTT, *Gwernllwyn House, Glamorgan*.

— SUSSEX RAINFALL.—The total rainfall at Abbots Leigh, Haywards Heath, for the past month was 0.76 inch, being 1.37 inch below the average. The heaviest fall was 0.23 inch on the 25th; rain fell on nine days. The maximum temperature was 56° on the 19th; minimum, 27° on the 20th and 30th; mean maximum, 43.28°; mean minimum, 35.23°; mean temperature, 39.25°, which is 3.31° above the average. The month has been remarkable as being both mild and dry, more fogs than usual, and but little sunshine. Snowdrops and Crocuses on south banks are in bloom.—R. I.

— THE WEATHER LAST MONTH.—January was mild until the 17th, with very little sunshine. Afterwards we had more frost and more sunshine until the end. Fog was recorded on fifteen days during the month. The wind was in a southerly direction eighteen days. Total rainfall, 1 inch, which fell on twelve days, the greatest daily fall being 0.24 inch on 24th. Barometer, highest, 30.698 on 9th at noon; lowest, 29.050 on 15th at noon. Thermometer, highest in shade, 52° on 2nd and 25th; lowest, 21° on 23rd. Mean of daily maxima, 43.67°; mean daily minimum, 34.41°. Mean temperature of the month, 39.04°. Lowest on grass, 14° on 23rd; highest in sun, 82° on 18th. Mean of earth at 3 feet, 41.29°. Total sunshine, 46 hours 10 minutes. There were thirteen sunless days.—W. H. DIVERS, *Belvoir Castle Gardens, Grantham*.

— CARNATION URIAH PIKE.—This rich crimson-flowered variety may well claim the honour of being the best advertised Carnation of modern days. But it is no doubt a first rate one, especially for pot culture, all the same. Mr. G. May at Teddington, who has done so much to extend the variety and popularity, has of it an immense stock, not meagre plants, but thousands of very strong ones, in from 6-inch to 8-inch pots; whilst of course he has also plenty of small ones. He also has thousands of seedlings from it. Uriah Pike is better fitted, because of its semi-tree habit, for pot culture than for border work. Mr. May, however, plants out large breadths of it to layer, as layered plants are much preferred to those raised from cuttings. Deep and rich in colour it has a delicious perfume, and is a valuable as well as a free blooming addition to our Carnation stocks.—D.

— KEEP YOUR PLANTS FREE FROM INSECT PESTS.—Insects increase with wonderful rapidity at this season, unless active means are taken to check them. The aphid will soon cover such plants as the Pelargonium and the Rose if not met with effective weapons. Fir-tree oil soap is the best insecticide I have ever used in fighting this pest. It is sure death to the insect if it reaches it, and is harmless to all plants if the infusion is made and applied according to the directions on the can. It is also very effective with mealy bug and scale. The red spider—which is the most destructive insect I have ever had trouble with—can only be conquered by the use of water in liberal quantities. It should be applied every day, and all over the plant. The spider locates himself on the under side of the leaves, and is dislodged only by forcible and repeated syringing.—(*"American Agriculturist"*)

— BIRMINGHAM AND DISTRICT AMATEUR GARDENERS' ASSOCIATION.—This Association commences the new year under very auspicious circumstances. The place of meeting has been moved to a much larger room, lighted with electricity, at the Municipal Technical School, Suffolk Street, where there is abundant and suitable space for the meetings. The Society has a larger balance in hand than any previous year, and the Hon. Treasurer (Mr. R. F. Rees) and Hon. Secretary (Mr. W. B. Griffin) have both been re-elected for the fourth time. If only they are supported by the amateurs in the district we venture to predict that the year 1896 will be far ahead of any of the three previous ones. At the annual meeting held recently Mr. Alderman Wm. White, J.P., was re-elected President for the fourth year, and Mr. J. W. Oliver was added to the list of Vice-Presidents. The following were elected to serve on the Committee:—Messrs. A. Roe, W. H. Wilks, C. Daniell, W. H. Peake, W. A. Sarsons, W. H. Twist, G. Pressly, T. P. Cope, A. Stanford, C. F. Franklin, W. England, and W. Glover. All communications to the Secretary should be addressed to Mr. W. B. Griffin, Wychbury, Alcester Road, Moseley, Birmingham.

— VISITORS TO KEW GARDENS DURING 1895.—The "Kew Bulletin" says:—"The number of persons who visited the Royal Gardens during the year 1895 was 1,407,369. That for 1894 was 1,377,588. The average for 1885-94 was 1,416,887. The total number on Sundays was 536,181 and on week days 871,188. The maximum number of visitors on any one day was 13,588 on June 3rd, and the smallest 104 on November 28th."

— A FLOURISHING BOTANIC GARDEN.—We learn that the botanical garden at Smith's College, Northampton, Massachusetts, is only a little more than three years old, but during the past year more than 1000 trees and shrubs were added to the collection, and the same number of herbaceous plants. Five glass houses were built during the year, including a large Palm house, so that there are now seven greenhouses altogether. The policy of the College is to make the garden primarily educational, but it is also interesting from an ornamental point of view.

— KEW PALM HOUSE TERRACE.—The condition of the raised flat expanse immediately surrounding the great Palm house has long been felt to be unsatisfactory and unworthy of this fine building. It had been covered with rough gravel which was unpleasant to walk upon and hot and arid to the eye in summer. A gravel walk has now been made connecting the different steps and entrances, and the rest of the space has been laid down in turf. The surface of this is unbroken except by a few bold beds of evergreen shrubs or of herbaceous perennials.

— PECULIAR TREE GROWTH.—A remarkable peculiarity in tree growth may be seen at Utica, New York, where there is a grove consisting of several acres of Pignut Hickory trees, very thick, and from 2 inches to 6 inches in diameter. An occasional Elm is the only other kind of tree in the grove. The tract was cleared (not ploughed) about twenty-five years ago, and was covered with mixed timber at the time, although there were no Hickories, nor was there a wood lot in the vicinity. Utica has another curiosity. The Universalist church in that city has two towers with battlement finish. On the top of one of them is a Mountain Ash in vigorous condition, having now a fair crop of berries. It has been growing there twenty or more years, and is fully 12 feet high.

— COLOURED FIGURES OF FUNGI.—Kew has lately purchased two folio volumes of unpublished coloured drawings of fungi of great merit. There is no clue to the name of the artist, but from the fact of most of the few remarks there are on the names and localities being in the Italian language, there is little doubt that the artist was Italian. The date is less uncertain and the work was doubtless spread over a number of years. The following note accompanies a figure of a specimen of *Polyporus squamosus* 18 inches in diameter:—"Fungo nato ne i Prati de S. Pactoro il Luglio, 1680." And a figure of *Clathrus cancellatus* bears the inscription, "Ad ripas Tiberis prope Flaminia, mense 9bris, 1699." Many of the figures are named in the handwriting of the late Rev. M. J. Berkeley, and a few in that of the late C. E. Broome. Nothing more is known at Kew of its history. Altogether there are nearly 1250 figures, most of them beautifully and accurately executed. In vigour of style they resemble Schaeffer's "Icones Fungorum," though there is no evidence that they served as originals. Indeed that work was not published till 1762-1774.—("Kew Bulletin.")

— OXALIS VERSICOLOR.—The trouble with most of the species and varieties of *Oxalis* lies in the fact that their flowers remain closed for a considerable portion of the day; especially is this the case in mid-winter, when some of them only open in clear sunny weather. Few of the species are very attractive unless they are in full flower. The species known as *O. versicolor*, however, is a notable exception to this rule, as the flower-buds and closed flowers are quite as attractive to many people as the fully opened ones. When expanded the flowers are about an inch in diameter, and the upper surface of the corolla is pure white. This species is not of robust growth; the leaves do not spring directly from the bulb; long slender stalks are first produced, which form bunchy growths at the apex, from which spring an astonishingly large number of leaves and flowers. The plant is particularly adapted for planting in baskets, as the branches hang over the sides. It begins flowering here, says a Washington contributor in the "Garden and Forest," about the middle of December, and continues for at least three months; this is in a house where the temperature is kept just high enough to prevent freezing. The pear-shaped bulbs are small, and in starting I set them singly in thumb pots, using peat, loam, and sand in equal parts. When the growths are an inch or two high they are transferred to baskets lined with sphagnum moss, when a richer soil is used, and in this they are planted rather closely.

— BANANAS.—These, when well grown at home are of far superior flavour and juiciness to what is found in the best of imported fruits. At home the fruits remain on the plants till ripe; the imported bunches are cut whilst quite green, and have to ripen afterwards. Some very fine examples of home grown Bananas may now be seen at River House, Hampton Court, where Mr. Last, Mr. O'Hagan's gardener, has a tall broad house devoted exclusively to the *Musa*, and out of ten noble plants seven are just now carrying huge clusters of fruit. For such huge leafage the headroom is too limited, but that cannot be avoided. If the general public could but see how Bananas grow as seen here, they would be deeply interested. The earliest fruits will be ripe about six weeks hence, and the supply will last for a long season.—D.

— HOW A TREE GROWS.—If you wish to become thoroughly acquainted with the tree's mode of growth the first thing of importance is to keep in view the function of the cambium layer—the soft, spongy substance lying between the wood proper and the bark. The pulpy, porous substance is really a tissue of minute cells, visible only under the microscope. The cells lying nearest the bark contribute a permanent accretion to the tree's covering, while those which lie nearest the wood slowly change to fibre. In this way the bark becomes thicker each year, and the tree is enlarged. The ends of each limb have also grown perceptibly—from 2 inches to 2 feet, according to the species—but knots, marks, forks, &c., on tree trunks are no higher from the ground than they were the year before. If someone tells you that a limb which is now but 3 or 4 feet from the ground "will be high enough to walk under when the tree gets its growth," put him or her down as a person knowing but little about the natural history of trees.—("Rural World.")

— THE MASSACHUSETTS HORTICULTURAL SOCIETY.—This was founded in 1829, and since that period has exerted a great and widespread beneficial influence in the extension and improvement of horticulture. In 1865 the Society obtained a large and commodious building for their offices, exhibition rooms, and library, but now these premises are all too small for the business to be properly conducted. Mr. F. H. Appleton, the newly elected President, recently outlined alternative schemes for remedying matters, and it is possible that ere long the Society will have a much larger building on the site of its present home, or a new home in another part of Boston. In his address at the annual meeting, the President suggested a system of bulletins instead of the continued publication of "Transactions," as a means of more easily spreading information. The splendid library, notwithstanding the great loss by fire, is so large and grows so fast that to a large extent it is reducing its own usefulness, books having to be piled up instead of being arranged on shelves ready for reference. As subjects worthy of the Society's careful consideration, the President suggested the publication of "Practical Methods of Subduing Insect Pests," "Useful and Injurious Birds," "Value of Water to the Fertility of the Soil," "The Use of Horticultural Books in Public Schools," and "The Treatment of School Yards and Home Windows." It is hoped that the Society may soon obtain sufficient room to use its library with comfort, and space to hold its largest horticultural exhibitions.

— CITRUS INODORA.—This is a new species of *Citrus*, native of Queensland. It is of interest as possessing economic qualities rendering it suitable for cultivation as a substitute for the West India Lime or for affording an Australian stock on which to graft or bud other sorts of *Citrus* plants. The following account is taken from the Transactions of the Queensland Acclimatisation Society (July-September, 1894, p. 194):—"Citrus inodora.—The Council were indebted to Mr. F. M. Bailey, F.L.S., Colonial Botanist, for quantity of seeds and scions of this Queensland Lime. Mr. Bailey, in his 'Third Supplement to the Synopsis of the Queensland Flora' (1890, p. 12), describes the plant, whose habitat is on Harvey's Creek, Russell River. He adds: 'This new species of *Citrus* is well worthy of cultivation for its fruit, which is juicy, and equal in flavour to the West Indian Lime. In general appearance the tree resembles the Orange, having the same dark green foliage. I have chosen the specific name on account of all the flowers gathered being wanting in fragrance—a remarkable feature in a genus so noted for scented flowers.' From the fruits sent by Mr. Bailey to the Society a large number of seeds were got; these had all been sown under favourable conditions, while the scions have been grafted upon *Citrus* roots. Mr. Bailey is of opinion that this *Citrus* plant will be an excellent stock on which to work any of the other sorts; it being a native, and, so far as is known, not liable to any disease, is greatly in its favour for stock purposes."—("Kew Bulletin.")

DRAINING.

THIS may be called a seasonable subject, for not only is winter the most suitable time for the operation to be performed, but when heavy rains come on the already soddened earth we can more readily discover where drains are imperatively needed than in the summer. It may be well to note the advantages which accrue from the proper draining of wet soil.

The first is that it materially raises the temperature of the soil. Soddened soil is always colder than dry soil, because what heat is absorbed by the soil is not employed in warming it, but in evaporating the water. Hence a wet soil retains its winter temperature long in the spring after a dry soil has become warm and favourable for the growth of vegetation. Nay, even the winter temperature of wet soil is much lower than that of dry soil. This is an important point, as anyone can see if a moment's thought is given to the subject.

Not only does water when thus stagnant actually keep soil cold because of the heat being utilised in evaporating it, but the rain of the summer, which further warms well-drained land as it passes through, has exactly the opposite effect on wet undrained land, for in that case it does not pass through the soil, but only adds to the water requiring evaporation. Hence in wet seasons crops on wet, undrained soil frequently fail to mature at all.

Then draining, especially when liming is also practised, sweetens soil. Wet land is almost always sour and contains much matter that is hurtful to vegetation, but when the surplus water is run off by properly laid drains it carries much of this away. Then, as every heavy rain passes through the soil, it carries off more and more, till what was once a sour, cold, poisonous soil becomes sweet, warm, and fertile.

Draining fertilises a wet soil. Whenever air is excluded from a soil by water, the decaying manure and other vegetation form compounds hurtful to vegetation; but when the water is run off air enters, and then very different compounds—compounds which nourish instead of destroying—are formed. Then, as every heavy rain displaces the air, so it is the cause of the air being renewed; for as the soil again rids itself of superfluous water fresh air fills the pores of the soil, and fresh oxygen finds out the matters only awaiting its presence to become plant food. Then drainage makes soil easily worked. It is impossible to improve soils by cultivation while they remain soddened. To attempt it is to do mischief. But on this point we will not enlarge, nor will we do more than point to the fact that drainage materially improves the climate as well as the soil.

These facts are well known, and need hardly have been repeated but for the fact that, though great pains are often taken to insure perfect drainage, no drainage results, and some of the benefits accruing from drainage, though very much needed, are never reaped. Drainage is only efficient when it is the means of carrying off water; but when it does not do so it is evident that the good looked for cannot result. In ordinary cases the drains have only to be properly laid to secure all the good results named above, because under general circumstances all the conditions necessary are present. In every garden, however, there are circumstances when all the conditions are not present. For instance, inside borders for Vines and Peach trees are invariably and rightly provided with drainage. It does not follow, however, that it serves its purpose, for it is doubtful if in any great number of instances water is applied in sufficient quantity to insure the draining.

Very much of the water which falls on the land evaporates either directly or indirectly from the leaves of plants. Evaporation inside fruit houses cannot be less than what takes place outside, and we should fancy it to be a good deal greater, while such broad-leaved plants as Vines pump an enormous amount of water from the soil. True, gardeners apply more water to inside borders than was usual only a few years ago, while the drying during the resting period usual once is no longer practised, still almost all are perfectly satisfied if they can make sure of their borders being fairly saturated. Thorough-going practitioners in some few instances, in order to "make assurance doubly sure," may give enough not only to secure all the benefits of plenty of moisture, but also the benefits of drainage.

Our inside borders are, in almost all cases, heavily manured, in fact, over-manured. For a time no great harm results, but in time the soil becomes overloaded, and those who can afford to do so renew the soil partially or wholly. Soils outside do not require such renewing, and it is an expensive process that few can afford. Care in manuring will help to stave off the evil day; the periodical application of slight dressings of hot lime will do much to keep matters right; but in order to maintain the borders in their fertility drainage—in other words, abundant applications of water—is also necessary. Undoubtedly the great purifier of the soil is water.

Injurious acids and salts are by its agency carried out of the soil into the drains and away, and nowhere are such to be found in such quantity as in over-manured undrained soils. Indeed it is not necessary that the compounds formed should be in themselves hurtful. Nitrate of lime or potash are manures of the greatest value when applied in moderate quantities, but when they accumulate in over-manured soils that are not drained they become positively destructive. Outside the weather-clerk takes care that such shall not happen if we only lay the pipes. In fact, outside such manurings are not given as are applied inside, and our object should, in the former instance, be how to guard against their loss. Inside we should take care that they do not accumulate and destroy.—S. G.

YOUNG PEACH TREES.

IT is sometimes a question how to prune young trees the season they are planted and which often have strong shoots varying from 3 to 5 feet in length. Our experience is that the shoots should be well pruned back to within 1 foot from where they started, either when planting or before the trees start into growth. We have tried both ways and no perceptible difference could be observed.

All young fruit trees when first planted should be cut hard back; it is a mistake not to do so, as the inexperienced often find to their cost afterwards. If the shoots are left a fair length at first, growths are invariably wanted near the base, and if they are not produced at first very often they do not come afterwards, or are weak and puny. Thorough pruning will induce them to burst almost every eye that may be left, when there will be abundance of shoots to select from.

Care is needed after the trees start into growth, or some shoots will take the lead of others, the tree becoming stronger on one side than the other. Pinching the stronger and allowing the weaker to extend will remedy this. A central one should be retained if any amount of trellis or wall space needs covering. The lowest branches as a rule may be allowed to extend their leaders if a back growth starts with fair strength. The same may be said of the next two, which may need pinching, or they may take the lead of the lower two if left to themselves. A little care only is needed early to regulate the growth of the two lower main branches on each side. The shoots that start from the central one need care and watchfulness at first, or they will grow with undue strength and by the end of the season be 4 or 5 feet in length, and unchecked growth of this description robs the lower branches. The best method to avoid the production of unfruitful wood in the young tree is to pinch all the strong shoots on the leader when 6 inches in length, which will induce the formation of double the number of shoots of a smaller size which under glass generally become ripened. If all are not wanted for the formation of the tree they can be cut away later in the season.

With attention in pinching young trees may be developed rapidly and furnished with ripened fruit-bearing wood, instead of strong coarse growth that will be barren. Once trees are established long lengths of shoots may be laid in annually, and with a little care in pinching they can be induced to furnish lateral growths.—WM. BARDNEY.

CATALPA BIGNONIOIDES.

THE tree so generally known as "the Catalpa" is now recognised by authorities under the above title; the name *C. syriaca*, which is also widely used in nurseries and gardens, having been formerly given to the same tree, and is now ranked as a synonym of *C. bignonioides*. The adoption of these two names has caused some confusion, and even now it is not uncommon to find them classed as distinct in trade lists. Some of the earlier writers referred this tree to the genus *Bignonia*, to which it is closely related, and it was consequently described as *Bignonia Catalpa* in several botanical works. It appears, however, that the same designation has been conferred upon at least two other species—namely, *C. Kämpferi* and *C. speciosa*, the former by Kämpfer and Thunberg when describing the plants of Japan, and the latter by writers on the North American Flora.

Catalpa bignonioides is an old inhabitant of English gardens, as it was introduced by a Mr. Mark Catesby from Carolina in 1726. It is faithfully described by Phillip Miller, and it was included in the Kew collection at the time Aiton published his "Hortus Kewensis." The tree is a native of Georgia and neighbouring States, but it was early and extensively planted for ornamental purposes in the towns of the Northern States as far as Massachusetts, and is now a common tree over a wide area. Loudon in referring to it says, "The French of Upper Louisiana call the tree Bois Shavanon from its being found in abundance on the banks of the Shavanon now called the Cumberland;" but as will be noted farther on, Dr. Englemann considers this term was applied to *C. speciosa*, and had a different origin. In the southern counties of this country and on the Continent the Catalpa grows as rapidly as in its native land, quite a good sized tree being formed in ten or twelve years, and this has recommended it to many planters. Another advantage is that it succeeds in damp situations where some Conifers and other trees will not exist, but with the common Birch, Poplars, and Willows it flourishes admirably. A waterlogged soil is not suitable for it, but it does not object to abundant moisture where there is a good natural drainage. In deep alluvial soil it makes most vigorous growth until a height of 30 or

40 feet is attained, and after that it becomes more spreading and bushy owing to the production of numerous strong lateral branches.

The leaves of this *Catalpa* are rarely fully out until the end of May. They are also destroyed by the first severe frost. The largest leaves are 1 foot long by 8 inches broad, heart shaped, and tapering at the tip,

summer. Strangely enough the tree did not bear one fruit last year, although the season was so favourable; perhaps it was too dry. In some gardens this *Catalpa* bears its fruits more frequently, certain peculiarities of situation no doubt helping it. In the United States the fruits often remain on the tree until the following spring.



FIG. 18 —CATALPA BIGNONIoidES.

of a peculiarly bright fresh green, quite distinct from the majority of deciduous trees, and in contrast with a dark *Pinus* and *Arbor Vitæ* the tint is very striking. The flowers are produced very freely every year during August, and they are occasionally followed by long narrow pods 8 inches to a foot in length, but this rarely happens except after a hot

When in flower the tree is very handsome, the large panicles being borne in great numbers, and for a fortnight or more these expand in succession. The corollas are peculiarly crumpled, with spreading lobes and a short inflated tube, white with yellow lines in the throat, and numerous small violet or purple dots, which give it a beautiful appear-

ance, something like the spotted *Gloxinia*. The calyx has a dark purplish tinge, the pedicels being similar, and they serve to show up the flowers still more. The illustration (fig. 18) represents a panicle of ordinary size, many exceeding it in length, and with larger individual flowers. They are almost useless for cutting, as they last but a short time when placed in water.

The tree is solely planted in England for ornamental purposes, and a moderately sheltered position should be chosen when possible, as the leaves, being of delicate texture, are soon torn and injured by wind. The wood being very brittle, the branches are soon broken and the symmetry of the tree completely spoiled. In the south it is rarely injured by frost, but the previous season's growth if unripened are occasionally killed. Owing to its starting so late in the spring it usually escapes the frosts that are often so disastrous to fruit trees. The wood is very light, but when matured and well seasoned is said to be durable, and large numbers of trees have been planted by the railway lines in North America to furnish timber. The bark is of a corky nature, grey, or almost white, and it is said to possess some medicinal value. One curious character is the freedom with which shoots are produced from all parts of the old branches or stems when cut back or injured in any way.

The variety of *C. hignonoides* named *aurea*, which is remarkable for its rich golden leaves, has come into notice of late years, and is one of the finest ornamental foliage trees we possess. Throughout the summer, especially in warm bright seasons, the leaves assume a golden hue that is most effective amongst variegated or green-leaved shrubs or trees. Though not frequently seen in gardens it has been in cultivation for over eighteen years, as a certificate was awarded for it by the Royal Horticultural Society in 1870.

SATURDAY AFTERNOON HOLIDAY.

GARDENERS perhaps, speaking generally, make a longer day than "Hodge," the poor agricultural labourer. Why should this be so? Is it not a question into which we can inquire as being one worthy of discussion? Some time ago a discussion was advanced in the pages of the *Journal of Horticulture* as to whether work in gardens should not cease at noon on Saturdays, thus giving the men the benefit of a weekly half-holiday. The reason our under gardeners work the many hours they do is, in many cases, mainly if not wholly the fault of those who are at the head of affairs.

The young gardeners of to-day are certainly much better treated than was the case in years gone by. Many readers of these notes have doubtless been up by daylight in the morning and have worked till dark at night, while Sunday has been the most toilsome day in the week. But worse than this, the habitations of young gardeners have been little better than hovels—dirty, uncomfortable, mere makeshift places—and gardeners in many cases have been largely to blame for this state of affairs, as I know from experience. As long as the work was done, and I am going to say is done in some places to-day, the comfort of the men is not considered in the least.

Great changes in many respects have taken place. Wages have been raised considerably, working hours have been reduced, and the comfort of the men considerably improved. This certainly is a step in the right direction, and has been accomplished without combination on the part of the young gardeners. We are gratified that the changes in our gardens have taken place silently but successfully for the benefit of our young men without resource to hostility or combination, which in other callings has not always been a successful means of bringing about the desired alteration.

The improvement made in this respect may be due, to a large extent, to the happier condition of working men generally. But I cannot help thinking they are due mainly to the fact that a younger race of men are now in charge of places, who have suffered in their early days from the many disadvantages already referred to. These men, having stepped into authority, have tried to the best of the resources at their disposal to better the condition of their young men. Instances need not be enumerated, for I know many, where, to the detriment perhaps for the time being of the gardener, every effort has been put forward to better the condition of those under him.

Do the young men appreciate these sacrifices on the part of gardeners? Those do who are on the "spot" when these changes take place, and I have found the more intelligent who come after also display their gratitude for what has been done for their comfort. There are others who take these improvements as a matter of course, and, under the most favourable circumstances, do not appear satisfied. It has been said again and again to me that young gardeners are worked late and early because the chief is so enthusiastic to have the work done, and to excel at various exhibitions with the produce he takes there. Well, even then I do not believe our young men, generally speaking, would complain if they shared, only in a small degree in the success of their chief. But is this the case? Not very frequently I think. My earlier experience points to the opposite. Later day observations and inquiries do not put a more favourable complexion on the matter.

Granting that the hours of under gardeners are less than formerly, and their home comforts more agreeable, I think the time has come when they should not be left outside of the general community, and be kept at work on Saturday until six o'clock. It may be contended that some leave off at four—that is true; but why not go a step farther, and allow them to leave off at mid-day? A general move would be a step in the right direction, and we fail to see why it should not be accorded due

consideration. Many arguments can perhaps be urged against it, but the whole can readily be overcome. For nearly six years we have practised this method, and with success. We have no fault to find, and no reason to alter the plans which work so well.

This system allows men to have Saturday afternoon to themselves. In large places cricket and football clubs can be formed, and most men take an interest in these healthy sports. It is true this entails the men leaving off occasionally, even an hour earlier, when playing from home; but as a rule they are willing to work overtime to make up for this. Such, however, has been the happy relations existing between myself and my men.

Our plan has been for the men in rotation to remain on duty in turn, and one of the others to give assistance. In fact, whether Saturday or Sunday, we always have two on duty—a responsible man who is paid the same as for week days, and another who renders help without pay. On the Sunday morning all the men in charge of the houses who live in the hothy, and advanced pupils who may live at home or lodge out, have to come and look over their own watering and syringing, thus making the work easier for those on duty. This is necessary, because in large places the man or men on duty often have a busy and hard day's work.

I cannot say if Saturday afternoon is given that I commend an exodus of all the men not on duty from Saturday to Sunday night; in fact if this was the case I should not recommend the half-holiday, because it would impose too much work on those left on duty. This is not the only cause, for when families are at home decorative requirements call for the presence of several of the men on Sundays, and in many places Friday, Saturday, and Sunday dinner parties are the rule rather than the exception.

I have found that if men want to go away they invariably ask permission and arrange for a substitute to do their work. This we regard as very satisfactory, as it shows that the men work harmoniously together on the whole. When such is the case the work generally goes on agreeably and well.

We are entering upon a new year when fresh resolutions are formed, but not always kept. We hope, however, gardeners in responsible positions will endeavour to make the lot of the young men under them as happy and comfortable as possible. Amongst changes contemplated, may Saturday afternoon be given for recreation. If general I venture to say the privileges of it will not be violated.—WM. BARDNEY, *Osmaston Manor*.

EXPRESS GRAPE GROWING.

THIS was the title of a paper read recently before the Liverpool Horticultural Association by Mr. C. Colebrooke of Great Grimsby. The meeting was held in the Free Library under the presidency of Mr. Thomas White. It is many years since a more plain and practical account of actual facts has been demonstrated to a Liverpool audience. Mr. Colebrooke claimed that his system was a modern one and that the demand for Grapes was double that of some years back. In preparing Vines for planting, he placed eyes in 4-inch pots and plunged them in warm material. When they had made four leaves they were taken out of the plunging material, and when again on the move transferred into 6-inch pots, the temperature not being below 65° with plenty of humidity in the atmosphere. In four weeks' time they were ready for a shift into 10-inch, the main shoot being allowed to run to 6 feet before stopping, then again to 10 or 12 feet, pinching all laterals to one joint. These, he said, were the Vines to plant.

In making the border he took out 1 foot of soil below the ground level, running a wall 4 feet high along the centre path. The bottom of the border was made in V shape to carry away superfluous water, and instead of concrete he used stiff road scrapings, rammed well and allowed to dry. Cross-drain tiles were put through the wall and drainage and carried upright on the opposite side, this being considered of the greatest importance, and reducing to a minimum the risk of the border becoming too dry. A foot of drainage he considered ample. The compost recommended was largely composed of good loam, leaf soil two years old, wood ashes, oyster shells, and fish manure. A border 3 feet wide was considered ample for the first eight weeks, with plenty of heat and moisture. In planting he strongly condemned the system of washing away all the soil from the roots, and said that from experiments in this direction those treated on the shaking or washing system were his weakest and most unsatisfactory Vines. The first week in August he considered a good time to plant, starting them the following year the second week in February, giving abundance of water at the roots and a fairly high temperature, allowing the Vines to carry two bunches each.

The best black varieties, he thought, were Black Hamburgh, Black Alicante, Gros Colman, Madresfield Court, and Lady Downe's. Amongst whites, the best price was always given for Muscat of Alexandria, although it could not be so heavily cropped as other varieties. The new variety, "Lady Hutt," came in for a high meed of praise, Mr. Colebrooke remarking that it was one of the most handsome Grapes he had ever seen, it succeeded with early or late varieties, and he could thoroughly recommend it to all who wanted a good acquisition. Speaking of cropping, he said that some of his Hamburghs carried three bunches on a spur; and as many as sixty-six bunches on a Vine of Gros Colman, black as sloes and as large as Orleans Plums. With the latter variety, to get the full flavour, it should be black before the end of September, and allowed to hang two months longer. The period over

which Hamburgs extended was never more than three weeks, all being cut in that time, this relieving the Vines greatly.

With a handy man on the premises, plain houses, and buying materials wholesale, the cost of erection was not heavy, and for an acre of glass near to a town, he had made a calculation that on the system he adopted there would be over a profit of over £600 per annum, selling the Grapes at 6d. to 8d. per lb.; and so satisfied is he with his five years' experience that he is now erecting three acres of glass at Nottingham, to be worked on the same principle. In treating on "Diseases," he believed the chief cause of shanking to be an insufficiency of potash and phosphates. In concluding Mr. Colebrooke said his paper was based on the strictest calculations.

Mr. R. Pinnington, in proposing a vote of thanks, said that he was glad to see that Grapes could be grown successfully without such expensive borders as was at one time thought. Anyone with money to spare, if all Mr. Colebrooke said was true—and he did not doubt it—had a good investment. With the essayist, he believed that not enough was got out of Vines in many private places, and gave an instance of crops not quite so heavy, which had been secured for many years, the Vines not showing the slightest weakness. He congratulated him on so excellent a paper. Mr. Craven doubted the wood ashes and leaf mould being mixed through the compost, but would use them as a top-dressing. He also gave as his reason for washing the roots of young Vines, that it prevented the spread of phylloxera. Mr. Carling said that it was good to enable the roots to be spread into proper position. Messrs. Storey, Massey, Bennett, and Smith all spoke, the latter remarking that although there was much that was new in what Mr. Colebrooke had said, yet he must be credited with taking a line of his own, and if people were slow to follow, it would be to their own detriment.

In concluding this report there were points in the paper that might, I think, create a healthy discussion in the Journal:—

1st, Is the circulation of air through the bottom of a border beneficial or not?

2nd, In planting, is it advisable to wash away the soil from the roots?

3rd, Is the use of wood ashes and leaf mould to be commended in making borders?

4th, Any opinion as to the merits or otherwise of the new Grape Lady Hutt.

5th, How long do heavily cropped Vines continue to bear useful fruit?—R. P. R.

THE ROYAL HORTICULTURAL SOCIETY'S ANNUAL MEETING.

JUDGING by what one reads in one, at least, of your contemporaries there seems to be a determination on the part of a few Fellows of the R.H.S. to make the recent Barron case, which we had thought to have been happily and honourably settled, a means whereby to attack the Secretary of the Society.

It is not so much love for Mr. Barron that is dominating these persons as that he, doubtless to his intense disgust, is to be used as a stick wherewith to beat the Secretary and the Council.

Never has an old and excellent servant been treated with more liberality than has Mr. Barron, and so much is that treatment respected that thousands of gardeners now regard him with envy. How does Mr. Barron's position now compare with that of Mr. Coomber? If there be such real indignation as these Fellows would lead others to believe, Mr. Coomber's case is one that may well call for its full expenditure. In the country the belief that the Council of the R.H.S. have acted nobly towards their old Superintendent in his retirement is overwhelming. But why this bitterness against Mr. Wilks? Has the Society ever been in a better position than it is to-day?

Apart from the Secretary, any attack upon him is an attack on the entire Council, and through that body on the Society. That attack it is hoped will be baffled.—AN UNBIASED FELLOW.

[If we could imagine our correspondent capable of being biassed at all, we should have thought his inclinations would have been likely to trend in the other direction. We betray no confidence in stating that he is one of Mr. Barron's sincere friends, and has never been in the habit of lavishing blandishments on the Royal Horticultural Society.

We are loth to believe that any of Mr. Barron's friends would humiliate him in the manner and with the object suggested, and it will perhaps be well if the underlying motives of all who are identified with the change in question, and the subsequent agitation, should be brought to the surface. There ought to be nothing to conceal.

One fact is beyond dispute—namely, that the conduct of the Council of the Royal Horticultural Society in its treatment of a retired servant stands out in brilliant contrast with that of the Royal Botanic Society, for Mr. Barron is allowed £180 a year, while a not less worthy man—Mr. Coomber—is, so far as we know, allowed nothing at all. True, he may not have been more than twenty years in the position from which he is removed, but they were, all the same, the best years of a good man's life; yet, as our correspondent reminds us, there has been no outbreak of indignation in this unfortunate case.

We are reminded by a circular that contributions towards a testimonial to Mr. Coomber may be sent to Mr. Harry J. Veitch, Hon. Treasurer; or to Mr. Jesse Willard, Hon. Secretary, Holly Lodge Gardens, Highgate, London.]



ROSE SHOW FIXTURES IN 1896.

- June 17th (Wednesday).—York.*
- „ 18th (Thursday).—Colchester.
- „ 24th (Wednesday).—Reading (N.R.S.)
- „ 27th (Saturday).—Windsor.
- „ 30th (Tuesday).—Sutton.
- July 1st (Wednesday).—Croydon and Ealing.
- „ 2nd (Thursday).—Eltham, Gloucester and Norwich.
- „ 4th (Saturday).—Crystal Palace (N.R.S.)
- „ 8th (Wednesday).—Redhill (Reigate).
- „ 9th (Thursday).—Helensburgh.
- „ 9th (Thursday).—Worksop.
- „ 15th (Wednesday).—Ulverston (N.R.S.)
- „ 21st (Tuesday).—Tibshelf.
- Aug. 5th (Wednesday).—Chesterfield.

* A show lasting three days.

The above are the only dates definitely fixed that have as yet reached me. I shall be glad to receive others, as soon as arranged, for insertion in my next list, which will be issued early in March.—EDWARD MAWLEY, *Rosebank, Berkhamsted, Herts.*

NATIONAL ROSE SOCIETY'S SHOW AT READING.

AT the annual meeting of the Reading Horticultural Society the Secretary read the agreement between the National Rose Society and the Reading Society regarding the show to be held on the 24th June, which showed that £50 was to be paid by the National Society towards the prizes and £50 by the Reading Society, the latter to pay printing and staging expenses. The members of the Rose Society were to be admitted free, and the £50 was to be paid to the Treasurer of the National Society within one month of the date of exhibition. The Secretary added that the Reading Society would provide £20 for local prizes for Roses and £30 for miscellaneous exhibits. A fund to raise the guarantee had been started.

GARDEN ROSES.

I HAVE read very carefully and with much appreciation the contribution of "H. D." which appears on page 94 of the *Journal of Horticulture*, and I hope he will take the advice of the Editor and continue his extremely interesting communications. I look forward with anticipatory pleasure to his forthcoming comments upon Hybrid Perpetuals, Noisettes, and Teas. In his paragraph on Moss Roses he speaks of a variety entitled the "White Bush," which, he informs us, has derived its name from its habit of growth. This may be an entirely new introduction; but for my part I have never heard of it before, and in order to discover some account of its characteristics I have consulted all the leading catalogues in vain. I find, for example, that the Cants of Colchester, the two firms of Waltham and Cheshunt, the Turners of Slough, and the Messrs. Harkness of Bedale are silent on the subject. I have therefore come to the conclusion that the variety to which your contributor refers is the somewhat venerable White Bath, one of the most beautiful and attractive of Moss Roses, which assuredly does not derive its name from its "suitability for growing in bush form."

I am not as a rule a great eulogist of the Moss Roses, which are, indeed, for the most part very fascinating in the bud, but disappointing when fully blown. To them might expressively be applied the words of Wordsworth, "Heaven lies about them in their infancy." I have cultivated Quatre Saisons and the white Perpetual Moss, but I have not yet discovered that either of these is perfectly perpetual.—DAVID R. WILLIAMSON.

GRAFTING ROSES ON ROOTS.

M. COCHET-COCHET writes as follows in the "*Journal des Roses*:"—"I consider the following a good method for multiplying Rose trees by cleft grafting on Sweet Briar roots or, better, on the roots of the *Rosa polyantha* type:—Select perfectly healthy roots half to three-quarters of an inch in diameter, cut them with a sharp pruning knife (not with shears) into pieces 3 to 4 inches in length, if possible with fibres attached and a portion of smooth bark to fix the scion. Place fifty roots thus prepared before you. Cut fifty grafts with two eyes of the variety to be reproduced. This preparation of roots and grafts before operating has the advantage of enabling an easy and suitable choice of each scion for each root. Make an ordinary cleft-graft by cutting the top part of the root and introducing the scion. See that the inner part of the two barks coincide perfectly. Make the ligature with coarse thread as used for sacks and cover with grafting wax. Then place the grafted roots in sand under a well closed frame in lines 3 to 4 inches apart and an inch or so from each other in the line. They should be buried, only the top eye being above the sand. According as they are made put the grafts into sand to prevent the action of air on the roots. Deprive them completely of air until they are quite united, then admit air gradually and afford plenty of light but no sun. The work may be done from October 15th to the end of March. The autumn gives the best results. In autumn roots and scions can be put in boxes filled with sand

and attached during frost or snow, grafts being put under frames at the thaw. It is essential to prevent them from freezing in the frames. The plants may be put out towards the end of April in light soil rich in humus, watered and shaded for the first days. A layer of short manure preserves moisture in the soil and is a necessary condition for success."

ROSE GROWING.

[Read by Mr. H. PROSSER at a Meeting of the Bournemouth Gardeners' Association.]

THERE are three essentials to successful Rose growing—namely pure air, suitable soil, and constant attention. The first thing to be considered is the soil, which should if possible be a deep heavy loam, somewhat clayey, as Roses grown in poor, dry, sandy soil are never of the best quality. They lack colour and substance, and consequently are not seen in their proper character. If the soil is a heavy wet clay, it will be benefited by being drained at a depth of 3 feet, which is an easy matter if the Roses are planted in rows. If, however, it is intended to make beds for the plants the soil should be taken out to a depth of 3 feet, a foot of drainage to be placed in the bottom, the largest stones being at the base, and the smallest at the top, covering the whole with a layer of fresh cut turf, grass downwards, which prevents the fine soil from choking the drainage. The soil which has been taken out may be used again, working in a good supply of decayed manure, old mortar or lime, crushed bones, a little charcoal, and chopped turf, but I should recommend where such is possible to re-make the beds entirely of new compost. A mixture admirably suited to Roses may be made of the following ingredients in the proportions given:—One load of clayey loam half a load of decayed manure, two barrowfuls of mortar rubbish, one barrowful of broken charcoal, and one barrowful of half-inch fresh bones.

Let us now consider the nature of light soil, which is generally shallow, or not sufficiently deep, and must, therefore, be taken out to a depth of at least 3 feet, filling the beds with the mixture previously recommended. I am aware that good loam is scarce in some localities, and, therefore, is expensive to get, but if first quality blooms are desired, it will pay the cultivator to obtain it. Should it be impossible, he will have to direct his efforts in making the soil heavier, which may be done by placing a foot of clay on the bottom, instead of drainage. The bed may then be refilled with the old soil, in which should be mixed about one-third of the amount of pulverised clay, together with some thoroughly decayed manure, crushed bones, old mortar rubbish, and chopped turf.

There is another suggestion I will make before passing from the preparation of the soil. Borders that have been made in naturally light soil without an addition to make them heavier can be much improved by placing on the surface a good top-dressing of fine dry clay, applied at any time before winter, when the borders are mulched. This will eventually be carried down into the soil by the rain. Should the ground in which it is intended to plant Roses be new pasture very little will be needed beyond a good dressing of manure.

PLANTING ROSES.

The borders having been prepared in the manner recommended, all will be ready for planting, which should be done as early as possible in November. The trees must be lifted and transferred to the beds as quickly as possible, as delay in transit causes the roots to shrivel, and has much to do with the future of the trees. If the roots are at all dry when the trees arrive they should be placed in water for about twelve hours, and the check will not be so keenly felt. Trees planted in a careless slovenly manner rarely live long, are generally poor, and fail to produce flowers of good quality. Here, then, is a lesson to be learnt—that we must devote as much care and attention, combined with skill, as is possible, to achieve the success we so desire. The holes for the plants must be a foot deep, and of sufficient width to allow the roots to be spread out, and in proper position.

A layer of decomposed manure, and a few crushed bones should be placed over the bottom, then add a little soil to prevent the roots coming in direct contact with the manure. Before putting in the plant carefully examine the roots, removing any that are thick and hard with a sharp knife to induce the formation of others more fibrous, these being the mainstay of the tree. Remove any buds which appear below the junction, or where the bud was inserted, for if these are allowed to remain they will produce suckers and materially weaken the tree proper. Having put the tree into its place, spread out the roots in their proper position, cover with some fine soil, and work it well amongst them, then fill up with the ordinary soil, and firmly ram or tread it round the tree.

Having finished planting a good top-dressing of manure should be placed on the surface, as it will aid materially in keeping the frost from injuring the roots. Dwarf plants should be placed 2 feet between the rows, and 18 inches from plant to plant. Such an amount of room may seem wasteful, but the plants will be benefited by having the sun and air to ripen the wood, without which we cannot have good blooms, though all the other requirements have received the best attention.

VARIETIES TO GROW.

In visiting a Rose show one always sees several persons taking the names of varieties they admire, and which they do not happen to have in their own collections. This is quite right, and the proper way to become acquainted with new kinds, but persons do not always consider whether it is possible in their own circumstances to grow this or that variety. It must be borne in mind that the air, position, and the

locality are important factors, and have much to do for or against the different varieties, for where one thrives another may perish; therefore it is better to grow varieties, so far as possible, which are suitable to the locality in which they are to be planted.

I will now give the names of a few reliable and useful Hybrid Perpetuals in each section which will form a good collection for intending planters, but let it be understood these are for general use, and if Roses are required for exhibition it will be necessary to get the varieties which stand highest in the analysis for that purpose.

Dark Varieties.—Abel Carrière, Horace Vernet, Xavier Olibo, Fisher Holmes, Louis Van Houtte, Prince Camille de Rohan, Charles Lefebvre Ferdinand de Lesseps, and La Rosière.

White Varieties.—Boule de Neige, Helen Paul, Merveille de Lyon, Violet Bouyer, and The Puritan.

Pink Varieties.—La France, Baroness Rothschild, Bessie Johnson, Captain Christy, Her Majesty, John Hopper, Madame Thérèse Levet, Marguerite de St. Amand, Souvenir de la Malmaison, and Paul Neyron.

Red and Light Red Varieties.—A. K. Williams, Alfred Colomb, Ulrich Brunner, Dr. Andry, Marie Baumann, Madame Victor Verdier, Beauty of Waltham, Général Jacqueminot, Maréchal Vaillant, and Duke of Edinburgh.

TEA ROSES.

These will be found more difficult than the H.P.'s to grow in the open, on account of the sharp frosts of the winter, and because they do not possess the robust constitution enjoyed by the previously named section. Considerable difficulty is sometimes found in ripening the wood, consequently they are often served badly by the frost; water standing about the roots is also fatal to them, therefore if the soil is very stiff or clayey they would do better if planted on raised beds. Tea Roses should not, in my opinion, be planted in November, as they do not become established, and the losses from a severe winter (following the planting) would be great. The middle of May is the most suitable time to place them in the beds, but instead of using plants lifted from the open procure some which have been grown in 5-inch pots. This method will allow the trees to become established by the following winter. In November they should have a band of hay tied round the base of the stem, and be mulched with a thick coating of manure.

Another method adopted by some, and which has much to commend it, is to grow Tea Roses in pots, and plunge them in the beds. These can be taken up and placed in a cold house or frame, and so save the risk of a severe winter.

TEAS UNDER GLASS.

These do better under glass than in the open, for the reason that they are not exposed to atmospheric changes or frost. They may be planted out or grown in pots, and by either system will give a supply of blooms later in the autumn much superior to those grown in the open. The colours of the flowers are well brought out in such delicacy, which cannot be seen from those in the open ground. They may be given a longer season of growth in which to mature the wood, this being a great advantage.

TEAS SUITABLE FOR TRELLIS.

For this purpose my experience is that they are best budded on the Briar, though some recommend them grown on their own roots. If worked on the former they give a quicker supply of bloom, and are much more free in flowering. I will admit if grown on their own roots they are longer lived, but they make rampant growth, which is so difficult to ripen, and though the blooms are finer they are much more scarce. I have seen trees of Maréchal Niel budded on the standard Briar completely covering the roof of a large house, and one of the trees was said to be carrying upwards of 2000 blooms of excellent quality at the time when I saw it.

The varieties best suited for training on the roof trellis are Maréchal Niel, Niphetos, Madame Lambard, Catherine Mermet, Lamarque, Climbing Devoniensis, and W. A. Richardson.

(To be continued.)

SHORT JOTTINGS ON PEAS

THE FIRST CROP.

WHEN one's neighbour is able by four and twenty hours to win the race with early Peas, one overlooks his exultation, hoping that the places may another year be changed. Serving a family which commands a garden a few degrees nearer the equator than this where I write, I am not pressed for very early Peas. Nevertheless I like to have them as early as possible. For several years I have relied on Chelsea Gem for a first crop, trying alongside it others as they have been offered, with the result that that named is still being cultivated. Several varieties are very like this, and those who grow any of them will, I have no doubt, have equal satisfaction with those who cling to Chelsea Gem. Regarding early Marrow Peas, my experience has been that whatever their value in other respects, they, from a given piece of ground, certainly fail in filling the basket, and the latter is a point that it is impossible to overlook.

METHODS OF PRODUCTION.

Sowing out of doors is no doubt the method requiring the least labour, but the system of raising the plants in pots is that which, other things being equal, is certain to give the quickest return. Few, however, have the space at command to forward the crop in this way.

Fortunately the Pea transplants with ease and safety; hence those with but limited means may gain time by simply sowing the seeds in ordinary cutting boxes, choosing for soil an open but good loam. Place in a warm house until the plants are well up, then transfer to a cool house, where growth, if slow, will at least be sturdy and safe. Make the sowing any time during February, and bear in mind that nothing whatever is gained by planting in cold soil too early.

HOW TO TREAT THE PLANTS.

For the earliest crop a south border will, of course, be chosen, the soil no doubt having been turned over in the autumn, and if needed a dressing of decayed manure applied then. The Pea, however, provided the soil is fairly fertile is as well without fresh manure. A favourable condition of the weather will be seized for planting, and if the soil is in the slightest degree inclined to surface dampness it will be found beneficial to run a Dutch hoe through it, when dryness will soon follow. It may occur, however, as it did in 1895, that the ground is so wet that the plants cannot be firmed at planting, and in these circumstances the less the ground is touched the better. The soil in the seedling boxes being somewhat dry, in order to facilitate lifting without root breakage, the young plants are taken out a number together, the soil shaken from the roots, and a shallow trench having been taken out with a spade, the first line is planted, spacing the plants 3 inches apart. Seven inches from the first line the second is in like manner set out, and then a few Spruce twigs are firmly inserted alongside each line, to serve alike for a present protection from the weather, and later as a slight support to the crop. Hoeing and watering comprise the work necessary until the flowering period. A simple proceeding at this point hastens in a material degree the filling of the pods. This is simply pinching off the tops of the plants. Nor does earliness alone follow. The pods as well as the peas they enclose are enlarged to a very appreciable extent.

THE SECOND CROP.

This is quite as important as the first, because then an uninterrupted daily supply of a better quality of Pea is expected. One may, of course, sow in the open the same variety that has been raised in boxes, but when it is discovered that the labour attached to the production of a crop in the way I have endeavoured to describe is little if anything greater than by growing altogether in the open, and with the added assurance of greater certainty; then the raising of second early sorts in boxes loses much of its distaste, and a few are accordingly produced in this way. The seeds do not of course need to be sown so early, and there is less work in protecting. At least a ridge of soil ought to be drawn up to each line after planting, for though less effective than a little hedge of Spruce branchlets, it is better than nothing at all. Some of the plants should, if possible, be lined off in a warm position, the others in the open quarters.

VARIETIES.

Some good Peas are included in the following:—William I., as a variety that for many years, on account of its many good qualities, has held a foremost position, cannot be lightly set aside. Of several novelties I look forward to another year's trial before saying anything about them. Last spring I sowed Carter's Early Favourite, which proved an enormous cropper, having curiously shaped pods with peas large and of delicious flavour. This Pea impressed me very favourably. Of Gradus I hope to have something to say on another opportunity; meanwhile it may be not out of place to recommend allowing the seeds at least 6 inches apart in the lines. Daisy, which was sown a little later, grew much better than it did in 1894. I have a decided preference for dwarf Peas on account of the difficulty of procuring good sticks in sufficient quantity to support tall sorts efficiently. No Pea, however, require sticks more than 5 feet out of the ground, as when the haulm shows that it will overtop the height determined the tops are removed.

Among other Maincrop Peas I had last year Wem and Memorial. Both are strong growing varieties of high-class quality. I thought Memorial an excellent Pea. Critic is also well worthy attention, and in Epicure we have one of the best flavoured summer varieties that it is possible to cultivate. Webb's Senator was remarkable for the extraordinary crop it bore, though the flavour was with me not so good as in Eckford's seedlings nor in Veitch's Maincrop, which proved to be, notwithstanding its somewhat strong habit, a good main crop variety.

The thin sowing of the seeds is a matter of the utmost importance where really first class table Peas are required; and nothing, when the initial mistake of thick sowing has been perpetrated, can afterwards make up for the error. There is, of course, a seeming gain on the side of thick sowing in the apparently large crop of pods that sets. But things are not always what they seem; and, consequently, the mere number of pods proves nothing. What is secured in thinly growing plants is a crop of large pods containing large peas, that I am certain will hulk equally large with the more numerous though smaller peas of a thick growing crop. As to the question of flavour, the former are always so superior that it alone should be sufficient to decide the matter. Just another item: The haulm of Peas when removed ought to be cut off and not pulled up. Science has taught us that the roots of Peas become stores of nitrogenous food, that if left in the ground leave it more fertile than it was when the crop was sown. Nor unless the haulm has been allowed to remain until it has yellowed should the latter be wasted, as it contains in appreciable amounts other plant foods. The thrifty method, consequently, is that which clears it away when still green and allows it to decay in the compost heap.—B.

BEGONIA WINTER GEM.

We can tell "S. V. M." that this was raised from a cross between *B. socotrana* and a tuberous crimson-scarlet seedling. It is of dwarf habit, with rounded leaves, and soft, rosy, well formed flowers, rather suggestive of the modern Zonal Pelargonium. It is free, lasts well, and is especially valuable for the fact that it flowers regularly in December, lasting to the end of January. It is a singular circumstance that the flowers seem to be all staminate, and this has been a difficulty in perpetuating the type. Fortunately they are increased by cuttings or bulbils, and every advance made will be watched with much interest.



FIG. 19.—BEGONIA WINTER GEM

The treatment usually accorded to winter-flowering Begonias suits this perfectly. It was introduced by Messrs. J. Veitch & Sons, Chelsea, about ten years ago.

PLUMBAGO ROSEA.

WERE I to look through the list of winter flowering plants, I do not think I could find one more worthy of comment than *Plumbago rosea*. Of course those who are acquainted with this plant will readily and properly conclude that I am referring to its usefulness for brightening our stoves or other glass structures, in which a temperature of 50° and upwards can be maintained, as it is a well-known fact that its qualities for house decoration, or for cutting purposes, are considerably below par, by reason of its susceptibility to shed its flowers if subjected to extreme temperatures or disturbed in any great measure. Although it is most useful for associating with the various other occupants of the stove, I do not think its real merits are thereby revealed, the effect produced being nothing as compared with that which may be obtained by treating the plant as a climber.

Having been very successful in the cultivation of this particular plant for several years, a few words pertaining to my method of culti-

vation may probably be of interest to the readers of the "Journal." A stock of young plants should be raised every year to insure success; these will supply useful material for grouping purposes the first season, for which they are far more suitable than old plants. After flowering they should be cut down to within an inch or two of the pot, and kept comparatively dry for a few weeks, when they must be encouraged into growth by a free but judicious use of the syringe, gently dewing them two or three times a day, according to the weather.

As soon as growth has fairly commenced the plants should be turned out of the pots, and have three-fourths of the old soil removed from their roots, after which they may be placed in pots one or two sizes smaller than those they previously occupied. A free use of the syringe must still be maintained, water being sparingly applied till the new soil becomes well permeated with roots, when it may be supplied with greater freedom. As growth proceeds a few light stakes will prove beneficial, both as regards the appearance and general well-being of the plant. As soon as the flower spikes appear liquid manure should be administered, say two or three times a week, or every other watering. This is also a most opportune stage for placing the plants in their flowering quarters, the flower spike presenting a more natural and pleasing appearance if thus allowed to grow unrestrained.

During the winter months *Plumbago rosea* forms one of the chief features in the glass department here, flowering as it does from November until February, one house especially being the cynosure of all beholders. This is a small span-roofed stove, the plants being trained up the roof with a groundwork of *Asparagus plumosus nanus*, interspersed with *Eulalia japonica* beneath them. The effect thus produced cannot adequately be conveyed by the pen, the sight must be seen to be fully realised. I have known instances where the flower stems have been removed as soon as they showed signs of decay, but this practice is bad, and should be abandoned by all who practise it, for by simply removing all loose and faded flowers, and supplying stimulants liberally, the old stems will in about a week be seen to extend young branchlets, also breaking out at the base of the old ones, and the second display will be nearly equal to the first.

I have no hesitation in saying that where *Plumbago rosea* is given a trial, and the foregoing instructions fully and properly carried out, the results achieved will not fail to satisfy even the most fastidious of persons. *P. rosea coccinea*, although much brighter in colour and considerably larger in the flower, is not nearly so free a bloomer as the type, consequently is not so frequently met with. It is, nevertheless, a very useful and desirable plant.—G. PARRANT, *Ashby Lodge Gardens, Rugby*.

CARTON, MAYNOOTH.

A SCOTCH mist on a winter's day is capable of toning down those sharper impressions which critical eyes are open to receive; yet such did not enter into the calculations of an old traveller and two juveniles who set forth under these conditions. Long ere the noble demesne was reached the younger eyes kept a bright look-out for the first visible landmarks of a place endeared to them by the strongest ties which bind to one particular spot on earth. Thought has even flown faster than the train which bears us to our destination, but at last we are running parallel to the boundary wall ere arriving at our stopping place, Maynooth. Here we run the gauntlet of some half-dozen car drivers clamorous for the only prey alighting, but it has been previously arranged that we would walk, and talk, and see each tree and stone *en route*; the two-mile journey being chiefly through the outlying portion of Carton. Perhaps the motive is misunderstood by those who rattle empty away, for there appears to be a little disgust, mingled with some surprise, that an old traveller should be so mean as to deny the juveniles a jaunt.

Maynooth is not a prepossessing town, its chief artery, Main Street, having to-day no visible circulation save a few misanthropical-looking hens and one solitary member of "The Royal Irish" (constabulary), who has "his eye on them." The summer season will show some stir among the smaller proprietors when the whitewash brush is called into action and the pristine whiteness of Kildare lime is evident; but cottage gardening is, alas! confined practically to hens and Potatoes. The most important imports are the little "gentlemen" who come from the market, to be returned from whence they came with some additional margin meaning rent. Yet from such times as the massive Castle was erected by Maurice Fitzgerald (in 1176) till its dismantling in 1646, Maynooth was the scene of stirring events. An interesting history of it is given in a little work entitled, "Residences and Castles of the Duke of Leinster, and of His Ancestors," by the Marquis of Kildare (1869). This connecting link with the past is suggestive of that long chain of events with which the noble name of Fitzgerald has been woven into Irish history, and sheds a reflection of departed glory over the dull little town of latter days. High up on the lofty castle keep bright patches of golden Wallflowers will greet the returning summer sun, around stretch the great pastures of Kildare and Meath in perennial verdure.

Once within the gates of the outer lodge we see things very much as they were nine years ago. The courteous old lodge keeper has, indeed, gone on the long journey, but here is the same scrupulously kept carriage drive, as smooth as the most censorious cyclist could desire. The same avenue of trees, youthful in size, though old in years, having, as they have, to brave all the winds which blow over the plains of Kildare. This avenue, nearly a mile in length, was originally made by James, twentieth Earl of Kildare and first Duke of Leinster, who

planted it with Elms which succumbed to the great storm of 1822. At the second lodge we are detained by familiar faces still fresh with forms a little more portly than of yore, who would hospitably dine us but that we are overdue elsewhere.

Changes are now seen in some ample and well-protected plantations, breaking here and there the broad sweep of the park. These have apparently been happily disposed, and cannot but enhance the beauty of the well-timbered demesne. With the last three heads of the ducal house their trees have to them been a passion, and I have yet to see the place where stands so many silent witnesses of the care bestowed. The late Duke, so untimely removed, was richly endowed with these inherent tastes. When Marquis of Kildare one of perhaps his chief enjoyments was in working amongst the trees, to the end that they should develop into the dignity of perfect specimens of their kind. Though not a prominent equestrian, I saw his Lordship on one occasion standing on the back of his favourite old horse cutting a branch high overhead which the long-handled pruning saw had otherwise failed to reach.

So, blending the past with the present in our walk and talk, the lake is reached, where red and golden Willows and masses of Dogwood are seen under the best possible conditions, glowing in colours fully brought out this dripping day. On Prince of Wales Island, an islet so honoured from a Wellingtonia having been set there by the royal planter, is noted, what I take to be, the identical tree; it has flourished and grown apace. Through the long stretch of shrubbery, considerably thinned in its general undergrowth of evergreens by last winter's snows, the kitchen gardens are reached. Light iron gates have here, and in other places, replaced the heavy wooden doors, and are in appearance a decided improvement.

The gardens originally designed by the Earl of Kildare about 1760 then comprised 26 acres within the walls. This was reduced to 10 acres, the present dimensions, by Augustus Frederick, third Duke, who also built a range of hothouses in 1826. This range, with some additions and alterations, still constitutes the principal fruit houses with a central plant house. Beyond the inverse proportions of wood to glass, as compared to modern building, there is but little to denote the age of these houses. Here, on this visit, we find Mr. Black instilling precept by practice amongst his staff in some cleaning operations going on. Apparently this is no spasmodic attack, for the most critically minded could not but acknowledge that cleanliness and order reign supreme. The conservatory (central house), filled with grand Palms, is in the pink of condition. Four other span-roofed plant houses are in the same faultless trim. The largest of these, formerly used as a Pine stove, is admirably adapted to stove plants, and many good things are in evidence. A far-reaching *Ipomea Horsfalli* is bristling with buds, and the veteran *Bougainvillea*, planted out, would absorb most of the roof room did it not receive a little wholesome correction. *Schubertia grandiflora*, *Petrea volubilis*, *Porana paniculata*, *Tecoma rosea*, with other things not commonly met with, have mostly been contributed by a member of the family who loves the subject and delights in sending such bits of the tropics, where he is, to the dear old home.

In a connection linking this house at right angles with the Paxton house a fine batch of Carnations are seen. In the Paxton house a little table of the most interesting succulents have been found room for. Greenhouse temperature is here maintained. Some of the iron supports are clothed with red and white *Lapagerias*, ultra luxuriant in their leafage, although they catch the sun at all points of his journey. A number of Tea Roses are planted out, and Mr. Black gives high praise to Princess de Sagan; nor does his enthusiasm fail to speak up for a collection of *Rhododendrons*, such varieties as *fragrantissima*, Lady A. Fitzwilliam and Lady Sefton being specially favoured. In the Orchid house a veteran *Angraecum sesquipedale* is bearing some noble spikes, and plants of the charming *Zygopetalum Mackayi* are in full beauty. Some clean, well-grown *Dendrobiums* have been previously seen hibernating in a vinery. The Orchids comprise an interesting lot without over-riding the claims of much that is good, and all that is healthy and well grown in the general collection of plants. *Dipladenia Lady Louisa Egerton* is one of those things which Mr. Black is not quite happy about until it is dotted down for honourable mention. The remaining plant house, of intermediate temperature, is bright and clean and prettily furnished. A new span-roofed vinery, quite a model house, contains an even crop of well coloured Grapes for winter use.

In a brief survey of beds and borders the cultured taste of the late Duchess is strongly evident. It is pleasant to see the love of hardy plants so prominent a feature, so much are they in the ascendant that all the labours entailed by thousands of tender bedders are now memories of the past. This is the great change under a new régime, which has, alas! been so pathetically closed. No greater tribute of affection could, I think, be paid by those in trust than in the conscientious endeavour to carry out the designs and wishes so abruptly foreshortened. "All is to be carried out as the Duchess intended," I am told, and her wish was to further adorn the beautiful Irish home on a scale as broad as those keenly perceptive faculties, with which Her Grace was endowed, of the beautiful in Nature.

Near the principal entrance to the gardens and parallel with the western wall, "the Pergola," an Italian conception, has been erected. This is a long rectangular building consisting of solid piers in red brick springing from low walls, with natural timber thrown across in place of a roof, acting as a framework for creepers and climbers. Rustic seats are placed at intervals in bays down each side of the interior. Some few years are needed to produce the contemplated effect. In the sheet

of water near M. Marlia's beautiful hybrid *Nymphaeas* have been successfully introduced, whilst Flag Irises (*Germanica* type) have been planted *à la* Barbidge on the arch of the garden entrance. I do not (intentionally) take the name of the College garden curator in vain, for amongst the many students who visit that elysium of hardy plants few were more observant than Hermione, the late Duchess of Leinster.

Returning by the south front of the mansion, where the ancient dwarf Yew hedges outlining the design of the Italian garden, planned in 1837, still exist, we find the old order has given place to the new. The smaller beds have been thrown together and planted with hardy plants confined by loose stone edgings. It is here, and here only, I cannot quite reconcile the freer method of culture with the severely classical outlines of the stately pile. Possibly the hedges, which are now being allowed to grow up with the ulterior object of cutting them into undulating (wavy) outlines, are all too prominent to the eye, whilst the plants are, at this season, but little in evidence. Anyway, being but yet in the conversion stage, future possibilities have yet to define their fitness to the position.

Mr. Black tells me of a bog garden to which distance and the rapidly closing day preclude a visit. One place is present in our thoughts and close at hand; this is the little private cemetery, which we enter as the pall of night is rapidly falling, and meditate on the greatest changes of all. Majestic Beeches tower overhead; below a hardy white Passion Flower entwines itself about the arms of a marble cross. Other memorials, plain and unobtrusive, lie on the soft, springy turf, from which will soon rise Snowdrops, Daffodils, and many things which steal upon the mind to lighten the "valley of the shadow..." Returning to the mansion, permission to view the magnificent reception rooms is availed of. All but closed for the present, stillness reigns save for the sound of children's voices borne from a suite of rooms above, where the little Duke and his brothers, doubly orphaned, are sharing the care and solicitude of those ladies to whom is gratefully dedicated these notes of the present and memories of the past by—AN OLD TRAVELLER.



FRUIT FORCING.

Pines.—The plants recently started into fruit will, if in good condition at the roots, produce strong suckers. When these are large enough to handle, all, except one sucker to each plant, should have the growths checked by taking out the centres with a chisel-like iron rod. To supplement the autumn-potted plants, select others which have been wintered in 7 or 8-inch pots, choosing the most vigorous plants. The remainder of such plants may be reserved until the general spring potting, when they should be shaken out and treated like suckers. Procure fibrous loam with the herbage reduced, or if used fresh it should be heated on a flue, so as to kill the grass and any larvæ it may contain, and when torn up in suitable compost add a quart of soot to every bushel, and a pint of superphosphate. If the turf has been laid up it must be placed under cover some little time before using to become dried. Drain the pots moderately but efficiently, dusting with wood ashes or soot, so as to exclude worms (this being effectively done by using "Porter's Excluder"), and, keeping the plants well down in the pots, ram the soil firmly round the roots, leaving sufficient space to admit of copious supplies of water when necessary. For Queens 10-inch pots are suitable, and 11 or 12-inch for those of stronger or more robust growth. A temperature of 60° to 65° will be sufficient for these plants, also for those potted last autumn, and 80° to 85° at the roots.

Plants in beds about to be started into fruit must not have the heat over 90° or 95°, or their roots will be injured. It is well to have the heat ascertained by a thermometer with its bulb level with the base of the pots. If sufficient fruit be started to meet requirements, later successional plants may be advanced slowly, they, with autumn-potted suckers, requiring careful attention in watering, especially when the heat is supplied by fermenting materials.

Peaches and Nectarines.—*Earliest House.*—The past month has favoured forcing operations, and where proper attention has been given to the ventilation and fertilising the blossoms the set is satisfactory. Any late-blooming varieties still in bloom should have the flowers with ripe pollen brushed over daily, either with a camel-hair brush or feather, though shaking the trellis answers in many cases, especially when the house is kept rather dry with a moderate circulation of air until the flowers fade, when a slight syringing with tepid water will soon bring off the remains of the flowers. Peach and Nectarine trees in inside borders always do better when early forced than those having the roots in cold outside borders, and they will set the fruit in a lower temperature, and any apparent lateness will be recovered rapidly as the days increase in length and brightness. Undue haste causes many disasters in forcing stone fruits, but success attends the safe, steady, progressive method. Disbud cautiously, retaining a growth level with or above the fruit. In disbudding take off the foreright shoots first,

commencing with the upper and upright part of the trees, and work down to the horizontal branches at the base.

Fumigate with approved material or vaporise with nicotine on the first appearance of aphides, but not whilst the trees are in flower, and be careful not to give too much, as the fruit and foliage are very susceptible of injury, on which account some growers prefer to use an extract of quassia chips or petroleum emulsion, or other approved insecticide. Keep the surface near hot-water pipes properly moistened, and supply liquid manure (or top-dress with an approved fertiliser and wash down) to the roots. Sprinkle a few sweetened horse droppings on the border occasionally for giving off ammonia both to the roots and atmosphere, which encourages the first to come to the surface, and in the latter is inimical to red spider whilst benefiting the foliage, or sprinkle occasionally with neat stable or cow-house drainings (not piggeries) diluted with five times the quantity of water or Peruvian guano, 1 lb. to 20 gallons of water, using 3 gallons of the dilution to 30 square yards. Avoid heavy mulchings, as these induce sappy growths—wood at the expense of the fruit, and must not be given till the stoning process is completed. Maintain a day temperature of 55° artificially, 50° at night, and 60° to 65° by day, with a little ventilation and gleams of sun, ventilating fully above 65°, being careful to avoid cold drying currents, and close early to raise the temperature 10° from sun heat above the ordinary day temperature.

Trees Started at the New Year.—The trees set to work at the beginning of last month have an abundance of strong blossoms expanded and opening and will need less atmospheric moisture, syringing the trees being discontinued, yet damping the floors and borders occasionally to secure a genial condition of the atmosphere. The night temperature may fall to between 40° and 45°, raising it early in the morning to 50°, at which keep through the day, ventilating from 55° and fully between 60° and 65°, leaving a little ventilation at the top of the house constantly. Examine the border inside and, if necessary supply water or liquid manure from stable, cowhouse or even sewage tanks properly diluted. This will become converted into assimilable matter by the time nutriment is required in quantity, and the foliage will have a deep green, glossy, healthy colour, indicating that it is making the most of the sunlight—gathering elements from the atmosphere essential for building up the structures healthfully at no cost.

Trees to Supply Fruit in July and August.—The house containing midseason varieties must now be started to give fruit at the time specified, syringing the trees until the blossoms commence opening, as they are now doing without any artificial excitement, and where the blossom buds are thick remove those on the under side or at the back of the trellises. Before the flowers expand it is a good practice to fumigate the house on a calm afternoon when the trees are dry to destroy any aphides that may exist, and so keep the trees free from these pests until the fruits are set. Inside borders must not lack moisture, therefore if there is any doubt on this point give a thorough supply of tepid water, or liquid manure if the trees are enfeebled by repeated forcing or need succour.

Late Houses.—The blossoms, or at least the buds, in these with the roof lights fixed are moving and in a promising condition. Where the lights have been removed the buds are still dormant, and the lights need not be replaced until it is wanted to start the trees or the blossoms are advanced in swelling, and it is not safe to longer expose them. Trees under fixed roofs must have the inside borders kept moist and freely ventilated, so as to keep the trees in good condition for giving full crops of fruit. Pruning, cleansing the house, and dressing the trees should be proceeded with and brought to a close as soon as practicable.

Figs.—*Earliest Forced Trees in Pots.*—These are now in full growth, and the young Figs on St. John's and Pingo de Mel—the two best first-crop Figs for very early forcing—are swelling rapidly, as also are those of Brown Turkey, which forms an excellent succession and the best all-round Fig in cultivation, even for first and second crops indoors or one crop in cool houses or on walls. The trees will need the points of the shoots pinched off when they have made five leaves. Maintain the temperature at 55° to 60° at night, and 65° by day, advancing to 75° with sun heat, closing early, and allowing an advance to 80°, 85°, or 90°. In dull weather extra heat early in the day will allow a little ventilation, if only for an hour or two, to give a change of air, and this tends to solidify the growths. Keep the bottom heat at 70° to 75° steadily, introducing fresh leaves as required. Red spider must be kept down by syringing, but always sufficiently early in the afternoon to allow of the foliage becoming dry before night. In dull weather it is better to damp the paths and walls than to keep the trees constantly dripping with water, which hinders evaporation and prevents elaboration of the nutrient elements.

Early Forced Planted-out Trees.—White Marseilles is a grand Fig when given room, and with Brown Turkey, backed by Negro Largo, which is better in the second than first crop, are everything desired for either home or market—yes, they sell well when neatly done up in boxes with lacc paper folded half over and not returnable, both in half-dozens and dozens. Both gentlemen and ladies purchase them in April and onwards at prices that pay the grower better than fruits grown to the extent of glutting the market. The trees when growing, also the fruits, must have a temperature at night of 55°, and 60° to 65° by day, with a rise of 5° to 10° from sun. Syringe twice on bright days, but on dull days morning syringing with damp in the afternoon will be sufficient, ventilating freely on all favourable occasions, as a weakly growth cannot afterwards be made stout nor a thin foliage become thick; therefore seek a sturdy growth, well-developed, thick leathery foliage from the commencement. A little partially decayed lumpy manure placed on the surface of the border will attract roots whilst not depriving

the soil of air, and this occasionally sprinkled with a little pure bone superphosphate will afford some ammonia, as well as the essential phosphoric acid and lime. Turves chopped up rather roughly answer nearly as well as the decayed manure, indeed quite as well if soaked in neat liquid from stables and cowbyres, sprinkling them with superphosphate after placing on.

Second Early Forced Trees.—In most cases a house of trees in pots and another of planted-out trees meet the requirements, as the Fig produces two crops in one season. The trees in pots, however, must not be burdened by a heavy second bearing if intended to give a full first crop by early forcing another season, therefore it may be necessary to supplement the early started by a successional house, which started now will give a first crop about the middle of summer and another towards its close, when Negro Largo is certainly seen at its best. The trees produce the finest fruits on extensions, therefore those having fruited and become bare should be cut out so as to give place to sturdy well-furnished growth, thinly disposed and kept clean. The trees must be put in order and dressed with an insecticide, but this is done directly the leaves are all down. Bring the border into a thoroughly moist state by repeated supplies of water or liquid manure as necessary. Syringe the trees occasionally, damping the paths twice a day. A temperature of 50° at night and 55° by day is sufficient to commence with, advancing to 65° from sun heat, ventilating freely on all favourable occasions.

Cherry House.—The Cherry is impatient of heat in the early stages of growth, particularly so when the ventilation provided is limited. This is a vital point, therefore commence ventilating at 50°, 45° being sufficient by day artificially and 40° at night. The trees advanced slowly from December are now rapidly unfolding the flowering parts, and will need attention in fertilising the flowers on fine days with a camel-hair brush. Where the flowers are not expanded it is well to fumigate the house, so as to make sure that the trees are free from aphides, repeating at intervals of a day or two. Examine the border, and if there be a deficiency of moisture give a thorough supply, not otherwise, for too much is as bad as too little water.

Melons.—Bottom heat is absolutely necessary to success in the cultivation of early Melons, and it should be durable. Hot-water pipes are the best, affording a regular heat when sufficient in amount. Yet a good result can be had from fermenting material if due regard is paid to their preparation. Stable litter and an equal proportion of Oak or Beech leaves are suitable. A bottom heat of 80° to 85° is necessary, that from dung and leaves should be 85° to 90° at the commencement.

A ridge or hillock of soil should be formed along the centre of a frame or of a light for frames, or along the sides of hot-water-heated beds, about a barrowload sufficing for a hillock, placing in the form of a cone, flattening the top so as to give about 12 inches depth of soil. When this is warmed through a plant should be turned out in each, affording the conditions for Cucumbers. Instead of planting seedlings out too soon shift into larger pots as required, plunging them in a bottom heat of 80°, securing the plants to small stakes and rubbing off the laterals to the height of the bottom wire of the trellis. Plants for pits and frames should be stopped at the second rough leaf, and they are best planted about that time or soon afterwards.

Cucumbers.—Young plants are now ready for transferring to the hillocks in the Cucumber house, it having been thoroughly cleansed, and the soil placed in a few days to become thoroughly warmed. Press the soil gently, yet firmly about each plant, place a stick to each and secure it to the first wire of the trellis. If bright sunshine occurs shade lightly in the middle of the day to prevent flagging, and after the plants become established it can be discontinued, subjecting them to the full influence of the sun. Keep the night temperature at 65°, 5° less on cold and 5° more on mild nights, and 70° to 75° by day, with 80° to 90° from sun heat, closing early in the afternoon so as to maintain that heat and advance to 90°, 95° or 100°, with plenty of atmospheric moisture on fine days.

Plants in bearing will need copious supplies of nourishment, which may be afforded in the form of top dressings or liquid manure in a tepid state. The thing is to be careful not to give it too strong, and only when needed, but always before the plants are distressed for lack of it. Crop lightly, and keep the plants clean. Avoid overcrowding, keep the foliage thin, remove bad leaves and exhausted growths, stopping others one or two joints beyond the fruit as space allows, maintaining a supply of young growths for successional bearing.

Strawberries in Pots.—The early plants have thrown up the trusses strongly, Newton Wonder leading, then La Grosse Sucrée, Vicomtesse Hericart de Thury, and Royal Sovereign being about level in following, the earliest having set the fruit freely, and being well thinned, are advanced in swelling. This should be accelerated in a temperature of 60° to 65° or 70° by artificial means, and 10° to 15° advance from sun heat, maintaining a genial condition of the atmosphere by dampings and light syringings on bright afternoons. When the fruits commence ripening (and ripe Strawberries ought not to be out of the common in February this year) a drier atmosphere will improve both colour and flavour. Plants advancing to the flowering stage must not be hurried, 50° to 55° being ample by artificial means, and 60° to 65° with sun heat, and free ventilation, but avoid cold draughts, especially directly upon the plants. More plants should be started without delay, such varieties as Noble, Royal Sovereign, President, Auguste Nicaise, Sir Joseph Paxton, James Veitch, and Sir Charles Napier afford grand fruit; but for quality Lucas, Gunton Park, or Dr. Hogg are unsurpassed, and plants should now be introduced, as well of the early varieties, so as to secure the succession unbroken. Keep a sharp look-out

for aphides in the stages preceding flowering, fumigating upon their first appearance, for they insinuate themselves into the opening buds, and give much trouble unless promptly destroyed.

THE KITCHEN GARDEN.

Celery.—If Celery is required for August shows, and for use early in September, seed ought now to be sown. Give the preference to the white varieties, notably Wright's Giant and Veitch's Superb. Sow the seeds somewhat thinly in pans of fine soil, cover lightly, and place in a brisk moist heat. Cover with squares of glass and shade heavily. Directly the seedlings are up raise them close to the glass with a view to keeping them sturdy. When rough leaves have formed prick the plants out into other pans or boxes by way of preparation for frames or pots, and still keep them growing in gentle heat.

Leeks.—These also are wanted early for the shows, and seeds should be sown and the plants treated much as advised in the case of Celery. Autumn sown plants can be grown to a larger size than those raised early in spring, but they do not turn out so well in the end, being much coarser and with bases unduly thickened.

Onions.—It is a good practice to raise Onions for both exhibition and ordinary purposes under glass extensively. When the seeds are sown in pans and boxes and placed in heat every sound one germinates. Added to this Onions raised early and planted out when about 4 inches or rather more in height invariably mature early and thoroughly, keeping well in consequence. A calculation should be made of the number of plants required, and seeds sown accordingly. Treat the seed and the plants as far as keeping them sturdy is concerned similarly to Celery, but there need be no pricking out. It is the best of the White Spanish types that should be sown. An early opportunity ought to be taken of preparing the ground intended for either Onion plants or seeds, so as to have it in good condition for them by the time sowing or planting arrives. If in previous seasons the Onion maggot has been troublesome, spread gas lime on the surface of the ground at the rate of half a hundredweight to a square rod of ground, and leave it exposed for not less than six weeks. A free use of soot is also remedial and is also a good fertiliser. If the soil is in a suitable condition, the first week in March is a good time to sow Onion seed in the open.

Peas.—It is a mistake to sow Peas in the open when the ground is in a semi-sodden unworkable state, and if, therefore, it is not moderately dry and free working during the second week in February wait a few days longer. Only the smooth round-seeded varieties ought to be sown, the wrinkled seeds being likely to decay when surrounded by cold wet soil. Well manured deeply dug ground is suitable for Peas, and without much further preparation will answer well for late Cauliflowers and early Broccoli. Open moderately wide drills 3 feet or rather more apart and sow the seed rather freely, covering with about 2 inches of fine soil. Midway between the rows of Peas sow one of Spinach.

Broad Beans.—A few rows of Early Longpod and Beck's Dwarf Gem Broad Beans may be sown at the same time as early Peas. If wanted particularly early raise the requisite number of plants under glass singly in 2-inch pots, planting out before they become badly root-bound.

Tomatoes.—If seeds were sown early in the year and the plants kept close to the light they ought now to be sturdy and strong. They may be either potted singly in 2-inch pots or be placed round the sides of 5-inch or 6-inch. Use light loamy soil and sink the plants to the seed leaves. Return to a brisk heat, and directly they have commenced rooting strongly let them have as much light and sunshine as possible. Before they become root-bound they must be transferred to their fruiting quarters. The earliest crops can be had from plants in 10-inch to 12-inch pots. Use a compost consisting of three parts of loam to one of old Mushroom-bed manure or horse droppings, adding a sprinkling of soot or special manure. Pot rather firmly and allow room for a good top-dressing later on. A temperature of from 60° to 65° is sufficient, and this should be accompanied with a circulation of air at all times other than frosty weather.

Tomatoes in Large Houses.—When Tomatoes have been grown in the same border for two or three years in succession and growers are not in a position to give a wholesale change of soil, a good rest to the soil would be allowed if pot culture were resorted to occasionally. Eleven-inch pots are not too large, and these should be arranged across the house in rows not less than 3 feet apart. If the plants are well attended to, that is to say, given plenty of water and liquid manure, and allowed to root into the soil beneath, they are capable of producing heavy crops; while the manure that drains from them will be absorbed by the soil underneath. When plants are expected to grow from 4 feet to 12 feet in height, and to bear heavily, they must have the benefit of a deep, firm, root run, and solid manure underneath, with abundance of water and liquid manure as well. All the work of cleaning the roofs, trenching, and such like should be completed well in advance of planting-out time.

TRADE CATALOGUES RECEIVED

- J. Carter & Co., 237, High Holborn.—*Temporary Pastures.*
 Dobie & Mason, 22, Oak Street, Manchester.—*Seeds.*
 J. Turner, North Street, Wetherby, Yorks.—*Seeds.*
 A. B. Greenfield, 10, North Street, Wandsworth.—*Perfection Seeds.*
 R. Smith & Co., Worcester.—*Seeds.*
 R. Dean, Ranelagh Road, Ealing.—*Plants and Seeds.*
 W. Wells, Earlswood Nurseries, Red Hill.—*Special List of Chrysanthemums.*
 Webb & Sons, Wordsley, Stourbridge.—*Seed Catalogue*

THE BEE-KEEPER.

APIARIAN NOTES.

AGE OF BEES.

"A SURREY NOVICE" at page 107 draws my attention to a crude and ungrammatical sentence, which is more likely due to the want of sleep than napping. The sentence will perhaps be more intelligible this way. My youngest bees are at least five months old, while the majority of them are several months older.

After our bees were taken to the moors nearly a fortnight of very untoward weather set in, every hive started brood-drawing at its commencement, and by the time the warm but sunless weather set in there was no brood in the hives. When the honey flow began, and the weather was still wet, egg-laying commenced again; but about a week after, when the temperature lowered the last week in August, every cell of brood was emptied, and, unlike their performance in other seasons, was never resumed, although the weather improved at the end of September up to the middle of October.

According to the statement sometimes made that bees live only thirty-five days in the summer, there would not be a living bee in any of my hives by the middle of October. But instead of having an apiary of empty hives, I question if there are better in the country, old as they are, that, together with the multitude of young bees now showing at every hive, augur well for the coming summer.

In 1894, as well as in previous years, I took joined swarms of bees to the Heather which were hived in the middle of June. These colonies stored nearly a hundred pounds of super honey during August and September, times and circumstances during which, according to some theorists, there would be no bees to gather honey. By stimulating bees to breed after August to have young ones to survive the winter is unsafe, and a process which soon makes a queen old and the hive unprofitable.

When I hear and read that about dead bees being on the floor of the hive, stating "they are old bees," I know differently. Bees do not die from old age inside the hive, as when the inevitable stage is reached they leave the hive. I hope these hints will be the means of putting some on the right track, as they are undoubtedly accurate.—A LANARKSHIRE BEE-KEEPER.

A SUCCESSFUL OCTOGENARIAN BEE-KEEPER.

Lately I received a letter from Ireland, in which the writer expressed the benefit he had received from the *Journal of Horticulture* over a long period of years; and he wound up by asking if I was the "Lanarkshire Bee-keeper" he was addressing. A subsequent letter contained some very interesting matter, including the following:—

"There is a grand old bee-keeper in a neighbouring county to this; he is a clergyman. He had Langstroth's hives and frames when they first came out, some time long before the so-called Standard, and still sticks to them; he never had a bad honey year, his worst was in one of the seventy's; he fed up £10 worth of sugar that year, in July, to prevent starving, and sold £30 worth honey in August. In 1893 he sold £93 worth, and told me that he never came so close before to the £100 as in 1894. I do not know his last year's returns. He had 13,000 sections off in August, and being eighty-two years old and delicate, complained he could not take off the rest. He has fifty to sixty hives in a good place."

Had that clergyman yielded to the clamour for a Standard hive he would not have to-day to rejoice in such large yields of honey. As important to bee-keepers as the above is the closing part of his letter, which reads, "I shall tell you some time about my bees and foul brood. It is well the 'scientists' have given up recommending medicine as a certain cure in all cases; or, indeed, I shall let them know it is no such thing." Were it only for exposing the so-called "certain cures of foul brood," and the nostrums advertised to effect such, the *Journal of Horticulture* would have done good service to bee-keepers.

At an important meeting of bee-keepers—converts to the Standard hive—one of its greatest advocates declared that, "notwithstanding all that had been said, the Lanarkshire hive in one or other of its forms was the coming hive." I am quite cognizant of the opposition, and the cause of it, to the hives and system of managing them; therefore advise bee-keepers to test the matter for themselves. "When doctors differ patients should decide."—A LANARKSHIRE BEE-KEEPER.

SEASONABLE NOTES.

The fine weather experienced during the past month is worthy of note by bee-keepers. The phenomenal mildness of the season,

and the bright sunny days of the last week in January, will long be remembered by those who are interested in the pleasurable pastime of bee-keeping; the rainfall, too, being much below the average, only registering half an inch. The first two months of 1895 were noted for the extremely low temperature that prevailed throughout the country. Many stocks of bees were found to be dead in the spring, but those that were judiciously managed were strong and healthy, thus showing that bees if well supplied with stores at the proper time, and protected with plenty of warm coverings on the top of the frames, although the hives were otherwise exposed to all weathers, with bottom ventilation, they came out strong and healthy. Bees worked on these lines, I am convinced, will winter well in the open through the most severe weather we are likely to experience in this country.

But what effect is the abnormally mild weather likely to have on the bees? is the question asked by a reader. Bees have been on the wing almost daily, and owing to their activity stores will have decreased rapidly. Breeding has commenced in the majority of stocks, with a corresponding increase in the consumption of stores.

On comparing notes made during the past I am convinced that bees consume more food during a mild winter than when the weather is severe, a fact that should be borne in mind by bee-keepers, who, through various causes, may find their bees are short of the necessary food. Such stocks will often commence breeding during a spell of fine weather, but the brood will be turned out of the hive at once should a few days of extra cold set in.

All stocks ought to be examined, and if found to be short of stores I have found a cake of soft candy placed on the top of the frames carry them over the crisis. If examined every ten days, giving them more when required, no harm will happen, breeding will go on apace, and the stocks invariably come out strong and healthy in the spring. Some bee-keepers object to candy, and may have good reason for so doing, but judging from that which I have long used I am of opinion that there is no food to equal it at this season with the exception of their natural sealed up stores, as it is too early to feed with syrup; in fact I have known bees starve with a plentiful supply of syrup within their reach.

There is a possibility of severe weather during the next two months; it is, therefore, a wise precaution to keep all colonies covered and well supplied with food. Removal and re-arranging of hives, if desired, should be carried out without delay, choosing a dull day for the purpose, for if left till late in the spring many bees will be lost in returning to their old stands.—AN ENGLISH BEE-KEEPER.



* * All correspondence should be directed either to "THE EDITOR" or to "THE PUBLISHER." Letters addressed to Dr. Hogg or members of the staff often remain unopened unavoidably. We request that no one will write privately to any of our correspondents, as doing so subjects them to unjustifiable trouble and expense.

Correspondents should not mix up on the same sheet questions relating to Gardening and those on Bee subjects, and should never send more than two or three questions at once. All articles intended for insertion should be written on one side of the paper only. We cannot reply to questions through the post, and we do not undertake to return rejected communications.

Catalpas (F. M.).—The trees to which you refer are Catalpas. We cannot tell you "all about them," but you will find a good deal in an article on page 120 that will interest you and presumably other readers.

Fuchsias at Kew (W. L.).—We have seen others besides the species you name grown in outdoor beds at Kew, including a charming display of, we think, the small-flowered Riccartoni. In no other way can you obtain such reliable information on the subject as by writing to the Curator, Royal Gardens, Kew, who will readily answer your letter.

Apple from Ribston Pippin Tree (Waltonian).—If the fruits sent have been produced by a branch direct from the Ribston Pippin part of the tree, and not from the stock on which the Ribston was grafted, the sport is a remarkable one. Even if the growth has issued from the stock the variety is noteworthy, as if the fruit is not identical with, it has a very close resemblance to, the "new" Beauty of Stoke, which was not long ago certificated by the Royal Horticultural Society. It is a beautiful conical Apple, faultless in symmetry, and worthy of increase by grafting.

Winter Temperatures for Conservatory (Subscriber).—The most suitable average temperature for a conservatory at this season is 50°. In the daytime in favourable weather the temperature may rise to 55°, and approach 60° with sun, always affording more or less ventilation on the sheltered side of the structure when the thermometer rises above 50°. Damp, cold fogs are best excluded. In cold, frosty weather 40° to 45° at night is ample, and better than a higher reading during the prevalence of a low temperature outside.

Genista Flowers Dropping (Subscriber).—The hot and dry atmosphere has been the cause of the Genista flowers dropping. The transpiration from the growth has been greater than the comparatively inactive roots could at first supply in a temperature of 60°. Probably the soil in the pots had been allowed to become dry, or if that was not the cause the sudden transition from a cool to a hot temperature brought about the results stated. Hardwooded plants should, in forcing, be gradually inured to warmth. Lightly syringing daily with tepid water and keeping the floors moist is of great assistance. Plants for forcing into bloom in January ought to be specially prepared for the purpose, but Genistas are not usually flowered before February.

Primulas Pale in Colour (S.).—We do not find that Primula sinensis flowers lose colour from a judicious application of heat. The plants ought to succeed well and the blooms open freely, retaining their colour to the end in the temperature you name—viz., 50° to 55°, especially if the plants are near the glass. All the light possible is necessary at this season, because upon that mainly depends the development of colour. There are other points of great importance, including robust healthy plants with abundance of fibrous roots in pots not too large, also correct watering. Partially exhausted plants frequently develop their later flowers on a truss rather paler than usual, and the strain of seed has some influence on good colouration.

Scale on Peach Trees (Inquirer).—There are several ways of getting rid of scale on Peach trees while the latter are dormant, such as dressing with any of the advertised insecticides, using a stiff brush and working it well into and around the joint without displacing the bud, afterwards syringing thoroughly. We have been very successful with trees badly infested by simply wetting every part with hot water. If the trees are on outside walls they must be unnailed, so that the water will reach every part; if under glass, taken from the wires and looped up loosely. The water should be used at a temperature of about 130° and applied forcibly through the syringe. Soapy water will not cause the buds to drop, nor, on the other hand, will it kill the scale unless it is heated as described. These cleansing operations must precede growth; and, if properly carried out, the young shoots will easily be kept clean by regular and judicious syringing and due attention to ventilation, thinning, and other cultural details.

Orchid Leaves Spotted (Grower).—The spots on the Orchid leaves sent are caused by thrips, possibly owing to the plant having been grown in a dry atmosphere. The marks will never be erased from the leaves attacked, but you should endeavour to rid the plants of the insects in order to prevent any further mischief. Dipping the plants in a fairly strong solution of soft soap and tobacco water, and carefully sponging afterwards is the best remedy; but this is quite useless unless you maintain a more suitable atmosphere. Odontoglossums are difficult to grow in a greenhouse with ordinary plants of a miscellaneous character, and we would strongly advise you to try them in a shady frame during the summer. You will find they are much happier there, the foliage will be healthier, and the plants improved in every way, and with the increased vigour thus gained they may pass the winter in the greenhouse in fairly good order. The temperatures you give are right, the fault lies entirely in the atmospheric conditions of the house as evinced by the poor texture of the foliage sent.

Liquid Manure for Orchards (Meopham).—Though liquid manure may be given with great benefit to exhausted fruit trees and bushes at this season of the year, and much stronger than during the summer, yet considering the marked absence of rain during the past month the drainage referred to may be unusually strong, and it would be prudent to test its effects on grass, waiting a week for results, prior to using the liquid extensively. In any case, we suspect it would do great good if diluted with an equal quantity of water. You will be then able to assist more trees, and it may be well to remember that the best feeding roots are not generally close to the stems, but at a distance from them about equal to the extension of the branches. Also keep in mind that it will be better to treat a limited number of the weaker trees liberally than to give light applications to a much greater number. At least four gallons should be given to each square yard in impoverished soil, assisting its passage downwards, if needed, with a pointed iron rod. We have never seen exhausted fruit trees so quickly improved as by generous applications of strong, but not too strong, liquid manure at this period of the year, and our experience is founded on the use of tens of thousands of gallons.

Noise in Saddle Boilers (Inquirer).—Are you sure the valves are fully open, and, further, that the outlet is not impeded by furring? If the water cannot circulate freely through the pipes there is bound to be "rattling and bumping" somewhere. Air not infrequently obstructs the circulation, and in this case all defects in the matter of air pipes should be remedied. Hard firing with violent boiling of the water is a great evil, the remedy for which is not a quicker boiler, but more piping, arranged to insure a smooth, unobstructed flow of water through the circuit. Pipes which have to be very highly heated, necessitating hard firing, results in costly expenditure for fuel and an increase of insects. The most extensive and successful growers of produce under glass for market take care to have an abundant supply of piping. Some persons

might think the provision in that respect excessive, but it is not, or it would not be provided. We were in a supply establishment the other day in which eighty miles of piping are employed to afford the necessary amount of heat in the best and most economical manner. The boilers you mention are employed for heating the water, and coke is used as fuel.

Chrysanthemums (Henri).—We have not received any list from you. If you furnish the list, repeating your desire, also enclose a stamped directed envelope, the matter shall have attention. You had better state the number you wish to retain. Selections of new varieties will shortly appear in our columns in a form that will meet your requirements, in common with those of many Chrysanthemum growers who wish to be up to date in the matter.

Chemical Manure for Light Peaty Soil (D.).—For dressing kitchen garden crops and fruit trees outside a nitrogenous, phosphatic, and potassic mixture would be most desirable for use with the growing crop, such as superphosphate, 3 parts or lbs.; muriate of potash, 2 parts; nitrate of soda, 1 part, mixed, the nitrate of soda being crushed fine, and in applying keeping the mixture from the plants—that is, not sprinkling it on the foliage. About 4 ozs. may be supplied per square yard at the time of setting plants or sowing, and afterwards as required. For fruit trees apply when the trees are swelling their buds in the spring, and again, if necessary, shortly after the fruit is set, or when it is seen that the crop is assured. This dressing, 7½ lbs. per rod, is sufficiently strong for even poor soil; therefore, if you use solid manure, or the land is in good order, supply half the amount early in the spring, and the other half when the crops are assured and commencing to swell. The better plan for such soil is to supply basic phosphate in the early winter, using 7 lbs. of it per rod (30¼ square yards), and half that amount of kainit, digging or pointing in moderately, and in the spring when the trees commence growing or crops are sown or planted supply 2 lbs. per rod of nitrate of soda, and if the crops are heavy apply a similar dressing when about a quarter grown, not deferring it later in the case of any crop, and keeping it from the foliage or hearts of the plants.

Diseased Gros Colman Grapes (W. G.).—The large (over an inch in diameter) berries bear the glaucous tufts or spots of the very common fungus named *Aspergillus glaucus*, Link, which is found on fruit, branches, leaves, and all kinds of decaying organic matter, including preserves. It is the conidial condition of *Eurotium herbariorum*. The conidia are globose, slightly asperulate, hyaline, then glaucous, and very small. The fungus is considered saprophytic, but connected with disease in various living vegetable forms, the over-growth inducing putrefaction and decay, possibly by a secretion rather than by direct invasion of the tissues by the mycelial hyphæ. The cause of the attack of the fungus is damp, probably a slight drip from the roof on the bunch, the water causing the decay or weakening of the cuticle, and thus forming a nidus in which the spores have developed. Owing to the imperfect colour of the berries the cuticle would be readily affected by the damp—the drops of water imperceptible to the unaided eye, and in these the spores would certainly develop, thus destroying the cuticle by the production of hyphæ and accelerating the decay of the tissues. The "blackness" on the stem is caused by tufts of sclerotia, for these bodies are the resting stage of the fungus, and from which spring the perfect condition. You may dress the Vine when quite dormant with a solution of sulphate of copper, 1 oz. to 1½ gallon of water, for arresting the growths pushing from the spores, and so prevent reproduction.

Diseased Fish (Gardener).—The fish are probably infested with some fungoid disease, the most common belonging to the genera *Monospora* and *Saprolegnia*, species of the latter being very fatal to salmon and trout, which probably ingest the micro-organisms in such low forms of water-insects (so-called) as the water-flea (*Daphne pulex*) or directly draw the parasites in as zoospores by the gills. All the diseased specimens we have examined have evidently been suffocated by the growth of the fungal threads in the body of the host, and this "takes on" as you describe—that is, the infested fish rise to the surface as if animals in quest of atmospheric air, rush about as if in pain, and in the course of a day or two they become listless, turning upon their side and die. The slime to which you allude is probably one of the fresh water Algæ, but we are not aware that any of these are parasitic (of course fungi are merely Algæ become devoid of chlorophyll) or so grow in water as to interfere with fish-life generally. We found nothing avail against the parasite but removing the fish and keeping them in clear pond water, removing every diseased specimen as soon as it began to show signs of the disease, meanwhile cleaning out the pond, which in our case was full of the freshwater Alga, common in ponds supplied chiefly by surface water, and known as *Cladophora*. Against this pest we have not found anything better than common ducks, which may not eat it as they do duckweed, but they so break it up by passing through their mandibles for the crustaceans lurking in it as to prevent its growth, and the fish then get a chance of ingesting sweet wholesome food. Both ducks and Prussian carp seem to be unaffected by the micro-organisms, and the fish put in afterwards usually thrive. We do not know of anything that may be put in the water that would destroy the fungus without killing the fish. The best way is to stamp out the disease in the manner described, and re-stock with perfectly healthy specimens. Cementing the pond would be inimical to the fish if they were put in soon afterwards, on account of the water being more or less impregnated with calcium (lime), but after it had become set, and there being none of it scattered about, the water would be little affected. The cement, however, seems to encourage the Algæ, we having more than once found the water slimy after repairing ponds, but we had no difficulty after keeping a few waterfowl, which are a great attraction.

Low-Growing Evergreens for Peat Beds (J. A.).—There are few evergreen hardy Azaleas, *A. amcena* being the most grown, and does well in smoky districts. The following succeed in peaty soil:—*Rhododendron hirsutum*, *Andromeda floribunda*, *Daphne cneorum* major, *Erica cinerea* vars. *alba*, *coccinea*, and *rosea*, *E. herbacea carnea*, *E. tetralix pallida*, *E. vagans*, *E. vulgaris argentea*, *E. v. dumosa aurea* and *variegata*; *Kalmias angustifolia*, *glauca*, *myrtifolia* and *nana*, *K. latifolia* attains considerable proportions; *Ledum latifolium*, *L. buxifolium*, *L. thymifolium*; *Menziesia polifolia*, and var. *alba*, *globosa*, and *atro-purpurea*; *Pernettya mucronata*, vars. *angustifolia* and *speciosa*; and *Skimmia japonica*. By confining yourself to evergreens you exclude some of the handsomest of flowering shrubs, but we suppose you have special reason for so acting.

Basic Slag Phosphate for Vines (A Constant Reader).—This is an excellent dressing for Vine borders generally that are rich in organic matter, as the free lime of the basic slag acts beneficially upon it, while supplying phosphate—i.e., phosphoric acid. It should be applied in the autumn or early winter, using about 4 ozs. per square yard if only moderately full of humus, or half a pound per square yard if very rich in organic matter, pointing in as deeply as may be without injuring the roots. This should be supplemented in the spring or when the Vines commence growing, with a top-dressing of bone superphosphate three parts, muriate of potash two parts, sulphate of lime one part, sulphate of magnesia half a part, mixed, using 4 ozs. per square yard. As it is now too late to employ the basic slag with advantage, you may supply a dressing of two parts air-slaked lime (freshly burned chalk become floury), and one part soot, mixed, half a pound per square yard, using at once and pointing in. This will give you plenty of chlorophyll in the leaves and berries, and in the Grapes colour, as you will have ammoniated iron, and from that comes colour and quality in fruit, other conditions being favourable.

Names of Fruits.—*Notice.*—We have pleasure in naming good typical fruits (when the names are discoverable) for the convenience of regular subscribers, who are the growers of such fruit, and not collectors of specimens from non-subscribers. This latter procedure is wholly irregular, and we trust that none of our readers will allow themselves to be made the mediums in infringing our rules. Special attention is directed to the following decision, the object of which is to discourage the growth of inferior and promote the culture of superior varieties. *In consequence of the large number of worthless Apples and Pears sent to this office to be named, it has been decided to name only specimens and varieties of approved merit, and to reject the inferior, which are not worth sending or growing.* The names and addresses of senders of fruit or flowers to be named must in all cases be enclosed with the specimens, whether letters referring to the fruit are sent by post or not. The names are not necessarily required for publication, initials sufficing for that. Only six specimens can be named at once, and any beyond that number cannot be preserved. *They should be sent on the first indication of change towards ripening. Dessert Pears cannot be named in a hard green state.* (S.).—The Pear is *Bellissime d'Hiver*. (S. Q.).—1, *Curl Tail*; 2, *Golden Winter Pearmain*; 3, *Flanders Pippin*. (W. F. G.).—1, *Winter Colman*; 2, probably local; 3, *Winter Hawthornden*. (C. D.).—1, *Golden Russet*; 2, *Flower of Kent*; 3, *D'Arcy Spice*; 4, *Alfriston*; 5, *Worcester Pomeroy*; 6, *Cox's Orange Pippin*. (B. M. W.).—Your specimens were very poor, and besides the numbers had become detached from the fruits. Send fresh ones of better quality and securely labelled, and we shall be glad to assist you.

Names of Plants.—We only undertake to name species of plants, not varieties that have originated from seeds and termed florists' flowers. Flowering specimens are necessary of flowering plants, and Fern fronds should bear spores. Specimens should arrive in a fresh state in firm boxes. Slightly damp moss, soft green grass, or leaves form the best packing, dry wool the worst. Not more than six specimens can be named at once, and the numbers should be visible without untying the ligatures, it being often difficult to separate them when the paper is damp. (B. A.).—1, *Phormium tenax variegata*; 2, *Cocculus laureola*; 3, *Acacia cultriformis*. (Suffolker).—1, *Sparmannia africana*; 2, *Myrsiphyllum asparagoides*; 3, *Dendrobium nobile*, fine form; 4, a poor variety of *Dendrobium speciosum*. (G. H. T.).—1, *Impatiens Hawkeri*; 2, *Jasminum Sambac flore-pleno*; 3, *Freesia refracta alba*; 4, *Adiantum amabile*; 5, *Davallia canariensis*; 6, *Asplenium biforme*. (Professional).—The Primulas sent are varieties of *P. sinensis*, that have originated from seeds, and come under the designation of florists' flowers, which we do not undertake to name. (R. M.).—*Bambusa Fortunei*. (J. Thomas).—1, a good and distinct, though somewhat pale form of *Dendrobium Phalaenopsis Schrederianum*; 2, so far as we know, the seedling *Cypripedium* between *bellatulum* and *venustum* has no classified name. It has been before the Committee of the Royal Horticultural Society, but was not considered of sufficient merit for an award. (Anxious).—1, *Asparagus tenuifolius*; 2, *Begonia metallica*; 3, this is a "variety" (not a species) which we do not undertake to name (see conditions); 4, an Aloe, species undeterminable without flowers; 5, *Hedychium*, probably *Gardnerianum*; 6, send when in flower and we will endeavour to oblige you.

COVENT GARDEN MARKET.—FEBRUARY 5TH.

THE supply of Grapes is now beginning to fall off, and prices are improving English goods coming very light.

FRUIT.

	s.	d.	s.	d.		s.	d.	s.	d.		
Apples, per bushel	2	0	to	4	6	Lemons, case	11	0	to	14	0
„ Nova Scotia, barrel	13	0		17	0	Pears, Californian, per case	13	0		14	0
Grapes, per lb.	1	3		2	3	St. Michael Pines, each	2	0		6	0

VEGETABLES.

	s.	d.		s.	d.		s.	d.		s.	d.
Beans, per lb.	0	10	to	1	0	Mustard and Cress, punnet	0	2	to	0	0
Beet, Red, dozen	1	0		0	0	Onions, bushel	3	6		4	0
Carrots, bunch	0	3		0	4	Parsley, dozen bunches	2	0		3	0
Cauliflowers, dozen	2	0		3	0	Parsnips, dozen	1	0		0	0
Celery, bundle	1	0		0	0	Potatoes, per cwt.	2	0		4	0
Coleworts, dozen bunches	2	0		4	0	Salsafy, bundle	1	0		6	0
Cucumbers, dozen	4	0	10	0	0	Seakale, per basket	1	6		1	9
Endive, dozen	1	3		1	6	Scorzonera, bundle	1	6		0	0
Herbs, bunch	0	3		0	0	Shallots, per lb.	0	3		0	0
Leeks, bunch	0	2		0	0	Spinach, bushel	2	0		2	3
Lettuce, dozen	1	3		0	0	Sprouts, half siv.	2	6		0	0
Mushrooms, per lb.	0	6		0	8	Tomatoes, per lb.	0	6		0	9
						Turnips, bunch	0	3		0	0

PLANTS IN POTS.

	s.	d.	s.	d.		s.	d.	s.	d.
Arbor Vitæ (golden) dozen	6	0	to 12	0	Ferns (small) per hundred	4	0	to 6	0
Aspidistra, dozen	18	0	36	0	Ficus elastica, each	1	0	7	0
Aspidistra, specimen plant	5	0	10	6	Foliage plants, var. each	1	0	5	0
Cineraria, dozen pots ..	9	0	12	0	Hyacinths, dozen pots ..	6	0	12	0
Cyclamen, dozen pots ..	8	0	15	0	Lycopodiums, dozen	3	0	4	0
Dracæna, various, dozen ..	12	0	30	0	Marguerite Daisy, dozen ..	6	0	9	0
Dracæna viridis, dozen ..	9	0	18	0	Myrtles, dozen	6	0	9	0
Ericas, various, per dozen .	9	0	24	0	Palms, in var., each	1	0	15	0
Euonymus, var., dozen ..	6	0	18	0	„ (specimens)	21	0	23	0
Evergreens, in var., dozen	6	0	24	0	Solanums, per dozen	8	0	12	0
Ferns in variety, dozen ..	4	0	18	0	Tulips, dozen pots	6	0	8	0

AVERAGE WHOLESALE PRICES.—OUT FLOWERS.—Orchid Blooms in variety.

	s. d.	s. d.		s. d.	s. d.
Acacia or Mimosa (French) per bunch	0	9 to 1	6	Orchids, various, doz. blms.	1 6 to 12 0
Anemone (French), dozen bunches	2 0	4 0		Pelargoniums, 12 bunches	6 0 9 0
Arum Lilies, 12 blooms ..	2 0	4 0		Primula (double), dozen sprays	0 6 1 0
Asparagus Fern, per bunch	2 0	4 0		Roses (indoor), dozen ..	1 0 2 0
Azalea, dozen sprays	0 6	1 0		„ Tea, white, dozen ..	2 0 4 0
Bouvardias, bunch	0 6	1 0		„ Yellow, dozen (Nicks)	3 0 6 0
Carnations, 12 blooms ..	1 0	3 0		„ Red, dozen blooms ..	6 0 12 0
Daffodils, single, doz. blms.	1 6	2 6		„ Safrano (English), dozen	1 6 3 0
„ double, doz. blms. ..	0 6	1 0		„ Safrano (French), per dozen	1 6 2 0
Eucharis, dozen	3 0	4 0		„ Pink (French), per dozen	3 0 4 0
Gardenias, dozen	6 0	12 0		Smilax, per bunch	5 0 6 0
Geranium, scarlet, doz. bunches	4 0	9 0		Snowdrops, dozen bunches	1 0 1 6
Hyacinth (Roman) dozen sprays	0 4	0 9		Stephanotis, dozen sprays	6 0 9 0
Hyacinths, dozen spikes ..	2 0	4 0		Tuberose, 12 blooms ..	0 6 1 0
Lilac (French) per bunch	3 0	5 6		Tulips, dozen blooms ..	0 6 1 6
Lilium longiflorum, twelve blooms	4 0	6 0		Violets Parme (French), per bunch	4 0 5 0
Lily of the Valley, dozen sprays	0 6	1 0		„ Ozar (French), per bunch	2 0 3 0
Maidenhair Fern, doz. behs.	4 0	8 0		„ Victoria (French), 12 bunches ..	1 9 2 6
Marguerites, 12 bunches ..	2 6	4 0		„ English, 12 bunches	1 0 2 0
Narcissi, var., doz. bunches	1 6	3 0			



THE BREEDING EWES.

IN stock breeding the farmer runs many risks, and often suffers much loss. Some of the loss arises, of course, from causes far beyond his control, others, again are mainly in his own hands, and these he might class among the "preventibles." To draw attention to these losses, and to point out means by which they may be mitigated (if not averted) is the object of this paper.

To produce healthy young stock care must be taken to breed from healthy, well managed parents; "like breeds like," and a sickly, debilitated constitution is passed on from mother to offspring; that is, provided they survive the difficulties of parturition. With regard to a flock of breeding ewes, during all the season of pregnancy they should be the objects of care and attention, but more especially during the last two months. As the time of lambing draws near, say during the last five weeks, the shepherd may, to his great chagrin, find not one, nor even two or three of his best ewes in premature labour, resulting in very tangible loss. This is not natural, and could possibly have been prevented; therefore it is well to consider what causes may have been at work to bring about so lamentable a state of affairs.

An evil known is often half remedied. Improper food supply is the most fruitful cause of abortion, and no man has any business to take in hand sheep breeding unless he is prepared to see that the flock are suitably and sufficiently fed. At least, if he make a deplorable failure he has only himself to blame.

Where Turnips are easily grown it is a great temptation to let the ewes have them and little or nothing else beside; in moderation they are good, but it must be remembered that at best they are very watery food and they should be supplemented liberally with a more generous diet. There are so many alternatives that a farmer must be either niggardly or a bad manager who does not see that his flock have their share of hay or Clover, cut meat, some dried grains or malt culms; in fact, no wholesome dry food comes amiss, and good dry food is an absolute necessity. Clover and hay are too valuable to be thrown recklessly about a Turnip fold, and a covered hay rack is a good investment. Failing that, a piece of netting filled and hung on the net stakes, having the appearance of a long bag, is a good substitute. During a hard frost extra rations must be served out; bear in mind that, bad as frozen Turnips are, they cannot be compared with those Turnips when a thaw sets in. Ewes fed on White Turnips are less liable to difficult lambing than those fed on Swedes. It must be remembered, too, that a sheep needs a certain amount of exercise—in a natural state their range is wide—in a penned-up fold the area is very circumscribed; and if, in addition, the layer is damp and cold, the animal gets so clogged that movement is almost an impossibility. At all costs sheep under such circumstances must be removed to grass or old seeds. Indeed, be the layer ever so dry, and the farmer ever so liberal, a day off once a week is of inestimable benefit.

One clever sheep farmer of our acquaintance always gives his ewes a "Sunday at home" on grass. They benefit by the change of food, and perhaps more even than that by the gentle exercise. The food is not concentrated in a few square yards, and they must be ever on the move to find it. A pasture where there is ergot-bearing Rye will be a fruitful cause of abortion. This, of course, would not occur twice. A flock wintered on grass will usually prove the healthiest, requiring but little hand meat if the weather be open. If a few Mangolds can be spared they are very desirable food, as they aid much in the production of milk. We have known a farmer with a plethora of grass take in his neighbour's ewes, and in exchange fold his hogs on his friend's abundant Swedes. This was an excellent arrangement for both parties. A week before lambing commences it is advisable to remove the sheep altogether from Turnips. Of course, ewes are every year lambed on Turnips, walking night and morning some little distance from the lambing fold to the field and *vice versa*. Some few oldish ewes, or those very heavy, could not bear even this gentle exercise; but to the majority it is most beneficial. A ewe is better not too fat, but she must be fresh, as no poor ewe can properly suckle her lambs, and is more likely herself to succumb to the trials of maternity. Damage is done to the ewes, and more than people imagine, by senseless dogging. An idle shepherd and a barking dog both want hanging. Forbid the use of a dog at all; exercise will do your shepherd as much good as the ewes. Where there is abundance of game, poachers' dogs may do irreparable mischief and get off scot free. The national sport of hunting, too, will often be the cause of great loss. A wise master will, however, do all in his power to prevent unnecessary excitement; but his "field" is sometimes beyond his control. One never hears of lambing losses being made good by M.F.H. A few old hens whose bodies are left *en evidence*, giving sure signs of Reynard's work, may be, and are made good, but the sheepowner's losses never.

Lambing pens are in themselves a fruitful cause of ill. It is most difficult to keep them absolutely clean, and germs of disease lurk unsuspected, and year after year grow and thrive on the weaklings. The ground gets so saturated with excreta that nothing short of ploughing will suffice to sweeten it and make it wholesome. Temporary pens erected in different spots every year would be ideal lambing places, and very much lessen the risk of disease. Indeed, if the flock be a large one, and lambing time much prolonged, it is advisable to shift to fresh quarters when about half way through. Sheep are hardy animals, and do not need pampering; indeed, more ill is wrought from too much care than too little. Plenty of air, plenty of exercise, plenty of good food, and no overcrowding.

If the weather be fine on no account bring up into pens those lambs dropped in the daytime till night, unless the mother refuse to take to them, and do not keep them up in pens an hour longer than absolutely necessary. See that the ewe has a good

supply of milk, and if she has not give stimulating food—a handful of Oats with a few Mangolds—and if after generous treatment she still refuses to yield milk, mark her and draught her off for feeding purposes. Some ewes have such a supply of rich milk for their single lamb that it gets too much and dies of surfeit. The remedy in this case is to give the ewe a dose of salts, lessen her food supply, milk her for a day or two, and then try her with two lambs about the age of the one she has lost, and in all probability she will prove an excellent foster-mother. Never use cow's milk unless absolutely obliged. Impress upon the shepherd the necessity of cleanliness, and insist on the immediate removal and burial of all disagreeable matter and stillborn lambs.

WORK ON THE HOME FARM.

Field Cabbage may be planted now where they have not been got in in autumn. A heavy manuring (not less than fifteen loads to the acre) is necessary, and this should be supplemented in April with 4 cwt. superphosphate, and 1 or 1½ cwt. nitrate of soda. These Cabbages would be ready for use in July or August, and are a most valuable food for lambs at a critical time, when spring-sown Cabbage is not ready. There is no better variety than Enfield Market for our present purpose.

With a fine, open winter and small rainfall, the land in many districts is beginning to work well; where it is dry enough the autumn ploughing should be cross cut, then dragged over and harrowed; even if nothing is now got off there will be a great saving in after work. Where the land was ploughed dry the advantage is very visible now. In wet seasons it is too common a practice to plough when no other work can be done; but this is "penny wise, pound foolish," the result almost always being more expensive than economical.

As there is little prospect now of severe frost, level with the harrow the land that has been cultivated for Potatoes; then if the weather keeps open it may be soon ridged out for planting. The exposure of the ridges to the atmosphere has a good effect, and the work will not want doing when the spring work is pressing on. When manure has to be carted some distance (there is no advantage in keeping it in the yards) it may be spread on the land and ploughed in; or where this is not found practicable it may be led into hill, and if well turned over at the end of three weeks there would not be much loss of ammonia, whilst the cost of turning would be nearly balanced by the saving in the cost of spreading and shaking out. This turning of manure is an old practice that has fallen into disuse, but which might be revived with advantage. The ordinary kinds of Wheat, apart from April Wheat, should be sown at once if at all, but we should not recommend Red Wheat for February sowing, varieties such as Hunter's White or Royal Stanhope being the best for the purpose.

MASTERS AND MEN.

THAT was a very good letter from "A Farmer." If labourers had small holdings cropped with Wheat they would naturally prefer to see their corn safely gathered in before that of their employers. "Charity begins at home." I do not know many employers who can afford, in the present bad times, to postpone harvest operations for the good of their labourers. We are not blessed with so much sunshine as to be able to delay making use of every opportunity that Providence offers. Masters and men must all "make hay whilst the sun shines," and, if they grow it, must not delay the making for anyone. Bread is cheap, and our men here are content to do a fair day's work for a fair day's wage, and buy or make their bread. A good garden is all my men want, and all they have time to cultivate.—HY. V. MACHIN.

[Good masters generally make good men, and good men make good masters. Here we have the happy combination.]

METEOROLOGICAL OBSERVATIONS.

OAMDEN SQUARE, LONDON.

Lat. 51° 32' 40" N.; Long. 0° 8' 0" W.; Altitude 111 feet.

DATE.	9 A.M.					IN THE DAY.				Rain.
1896. January and February.	Barometer at 32° and Sea Level.	Hygrometer.		Direc- tion of Wind.	Temp. of soil at 1 foot.	Shade Tem- perature.		Radiation Temperature		
		Dry.	Wet.			Max.	Min.	In Sun.	On Grass.	
	Inchs.	deg.	deg.		deg.	deg.	deg.	deg.	deg.	Inchs.
Sunday .. 26	30.188	46.8	45.4	N.	42.0	49.0	46.6	53.7	44.7	—
Monday .. 27	30.361	44.3	43.8	S.	42.2	48.9	42.1	50.9	41.0	0.107
Tuesday .. 28	30.403	44.4	43.0	N.	42.9	47.0	43.7	72.2	42.1	—
Wednesday 29	30.821	35.9	35.0	N.W.	41.1	46.0	31.0	63.0	26.0	—
Thursday .. 30	30.915	32.4	32.4	N.W.	39.9	41.1	31.6	53.6	27.3	—
Friday .. 31	30.837	39.2	37.8	N.	38.9	43.8	32.7	49.2	27.9	—
Saturday .. 1	30.644	38.2	35.7	N.	39.2	39.4	37.7	41.9	36.0	—
	30.596	40.2	39.2		40.9	45.0	37.9	54.9	35.0	0.107

REMARKS.

26th.—Generally overcast, but some sunshine in afternoon.

27th.—Overcast all day.

28th.—Bright sunshine all day; clear night.

29th.—Fine and sunny throughout, and bright night.

30th.—Damp fog early, clearing towards noon; sunny afternoon.

31st.—Overcast all day.

1st.—Fair, but sunless.

A fine week, with exceptionally high barometer.—G. J. SYMONS.

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| 1 pkt. BEET, Dell's Crimson | 1 " ENDIVE, best sort |
| 1 " KALE, Veitch's Dwarf Late Curled | 1 " LEEK, Musselburgh |
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| 3 " CABBAGE, Enfield Market and other good sorts | 1 pkt. MELON, choice variety |
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| 2 1/2 ozs. CARROT, Veitch's Matchless Scarlet, and other best sorts | 1 " PARSLEY, Veitch's Superb Curled |
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"From the 21s. Collection of Primula Seed I never saw a better display of Primulas in my life. The blues were superb; in fact, they were all you could wish them to be."—
Mr. F. G. SKELTON, Gardener to J. Lingford, Esq., J.P.

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Journal of Horticulture.

THURSDAY, FEBRUARY 13, 1896.

TRINIDAD IN WINTER.

BROTHER J., in a descriptive letter, speaks enthusiastically of the tropical glories of Trinidad. He says, "The whole island is a natural flower garden, art having, apparently, done but little. It is grand just now to see bushes of Poinsettia a mass of brilliant scarlet. The Bread Fruit Tree grows to a large size. The Hibiscus always in bloom, and of several colours. Plumbago everywhere, its beautiful blue flowers thrust through the railings to wish you good morning. Dracenas very fine; Crotons as vigorous here as Laurels are with you at home. Caladiums abound, but I have seen none so rich in colour as those cultivated in your stove. We have Roses all the year round; when coming out in August last I brought some plants (Roses) with me from Dickson's of Chester, and they now bear their second crop of bloom. Grape Vines yield two crops in the year.

"In the island are forests of Cocoa Nut Palms, always in bearing, some specimens attaining to 60 feet high. Cocoa-nut milk is much appreciated; cartloads of the nuts are brought in here (Port of Spain) daily, and nearly everyone drinks the fluid before coffee is served. Oranges, sweeter and more juicy than those imported into Ireland, are abundant, and always in season. Avocado Pears (*Persea gratissima*), Pines, Bananas, and other luscious fruits make up a rich and varied dessert, especially grateful and comforting in the tropics. The Nutmeg Tree is very interesting, its fruits becoming quite yellow when ripe, and in bursting disclose the golden lining of mace which envelopes the jet black nutmeg. Cloves also grow here; in fact the air is heavy with the odour of spices. The Candle Tree is very curious in its candle-shaped fruit, about 14 inches long. Creepers and trailing plants are innumerable. A chain of hills wind round the island, clothed with the greenest foliage from base to summit. Lovely valleys are interspersed, and in these grow the Cocoa trees, similar in appearance to the Spanish Chestnut. Through these plantations several varieties of Palms and Tree Ferns are noticeable, with clumps of Bamboo towering up 60 feet, occasionally forming natural arches over the road. Now and again some fine old tree is to be seen

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covered with Orchids, mingled with a drapery of creepers, amongst the latter I noticed a *Passiflora*. Sugar-canes grow chiefly in the plains.

"You could not imagine anything more beautiful than some lofty cliff, as seen here, decorated with creepers and blossoms in almost endless variety and profusion. One scarlet-flowering plant somewhat resembles the *Poinsettia* (*Poinciana*, perhaps), though I have not seen it before. The botanic garden is a delightful place from Nature's own point of view, and contains some magnificent trees; one girthed 30 feet at 7 feet from the ground. Four of these stately specimens, bedecked with Orchids, appeared to me to cover nearly an acre of ground. The Governor's house is situated here. To my mind the Cabbage Palm, some specimens growing to close on 70 feet high, is the most noble of the genus. Oh! if but my dear friend "F. W. B." was here—it would take his fluent and graceful pen with the pencil of a Claude to do justice to this beautiful land—this land with a maximum of Nature's gifts and a minimum of man's efforts."

Brother J. here observes the noticeable lack of energy to develop the natural resources of the island with a view to exportation. Continuing, he says, "The cry here is that the Home Government does not care to help. America does a considerable trade here, and I am quite sure that this will be an important place for England yet, with its grand harbour (the Gulf of Paria) capable of sheltering all the navies of the world. The low price of sugar ruined the large planters, but large planters are scarcely of service to a small colony, as the bulk of the profit goes out of the country. Coffee grows well in the hill districts, but there appears to be something wrong somewhere, as in parts of the island there are no roads, and the whole is only about the size of Lancashire. They want Mr. W—— here to do what he is doing for Surrey (presumably not for literal roadmaking, but to pave the way for systematic fruit culture). Here is a land of eternal summer tempered by sea breezes, and escaping the more excessive heat of other West Indian islands."

I now conclude these extracts from a long and interesting letter, in which the writer appears to have a fervent desire to import into his new home the talent and energy of "J. W.," "F. W. B.," and "W. B." Rest content, Brother J., in that terrestrial paradise; you have a great deal. We want them, too: you also, when you can be coaxed back to Erin, for I fancy that our metropolis is not so well supplied with Mushrooms since you left Tallaght for Trinidad.—K., *Dublin*.

TILLAGE.

THIS important operation in practical horticulture appears to be slowly losing the prominent position it held as an essential part of good cultivation in times not very remote. The reasons for this are no doubt varied, and one, at least, may safely be ascribed to the limited amount of attention paid by young men in the period of their novitiate to matters connected with outdoor gardening. Not improbably, also, a determining cause may be found in the great reduction in the working staff in gardens, the effect of which generally falls to be borne by the department devoted to the production of vegetables, and possibly also the employment of chemical manures, which has developed at so rapid a rate as a recognised system of cultivation, may have its share in the matter. Whatever the reasons, there can, I think, be no question as to the fact. Ground bared of a crop in the autumn, instead of being trenched or double dug, is commonly simply dug, and sometimes even that is not overtaken until just previous to the ground being required for cropping in the spring. I am aware that in former times digging might well have been substituted for some, at least, of the trenching that was so faithfully undertaken. It was, however, one of these failings that leaned to the side of virtue, and doubtless it always brought its own reward to the cultivator, for if we examine the reasons advanced for deep cultivation, the chief ones appear to have been the production of an enlarged because a deeper root run, and the interchange of an exhausted surface soil with a fresh subsoil. With regard to the former of these it is quite plain it can apply with force in the case of deep rooting plants alone, and to the latter the experiments in agriculture

prove that a fresh subsoil is not invariably an unmixed benefit. I venture to think that a not unimportant result of trenching in these days of high manuring was the tone it gave to the soil as a whole.

Before proceeding farther with the question of tillage and its effects, that of drainage may parenthetically be disposed of. It may be concluded that few gardens remain undrained, because draining has results both of a positive and a negative character so important that it is difficult to conceive how fruit and vegetables can be profitably produced without the drainage of the soil having first of all been perfected. It is well understood that stagnant water has a depressing effect on the whole body of soil, rendering it cold, inert, and unfertile; and that drainage, in addition to removing such water, is followed by other results of a beneficent nature that places at the disposal of the cultivator a medium capable of being made fit for the production of any crop. In the general discussion of tillage further reference to drainage will be most conveniently dealt with.

Taking now into consideration more particularly the effects of double digging and trenching, in addition to these operations providing an admittedly deeper rooting medium, which in most cases can be beneficial to the full extent only to those crops requiring a deep root run, they at the same time bring into operation influences that extend to shallow rooting plants. For example, a deeply cultivated soil is throughout its entire depth affected to a less degree than a shallow one by weather. This follows largely on account of its increased porosity and capillarity. The capillarity of a soil resides in its power to transmit moisture from a lower to a higher level; its porosity, the power to pass water rapidly from the surface to its lowest level. The last-named acts in a period, however short or lengthened, of wet—the first in a time of drought. A like condition of soil favours or hinders both. It is a property common to each that the finer and the more numerous the pores, so does the ratio of their power of action increase. Clay possesses this wonderful power to the greatest degree, and sandy soil the least. In wet land there is naturally little if anything of either of these forces at work. In drained soil, thoroughly tilled, one or the other is constantly coming into play, so that no part of the soil under ordinary conditions is much wetter or drier than another part.

It will thus be apparent that soil in a finely divided state is highly favourable to the maintenance of an equable condition as regards moisture. Hence in trenching or in digging it is not sufficient that the clods are merely transposed as the work proceeds; they ought to be broken as finely as possible in the mass. It is, perhaps, not customary to be so particular in the breaking down of the soil; but it has important results, and well repays the extra time spent on so treating the land. Perhaps no better example of the beneficial effect of this treatment is to be found than in a Celery ridge. Though only a narrow ridge of soil elevated quite above the general level, and exposed to the greatest extent possible to the drying influences of sun and air, crops are grown to perfection on these ridges without being any more, if as much, affected by drought as those planted on the level.

There are other reasons why soil should be divided into fine particles. One is that a very largely increased feeding space is provided for roots, and it will follow that a piece of ground that has been turned over three or four times between the seasons of cropping will be relatively more fertile than if dug only once. It is not improbable that repeated exposure to the atmosphere, if only for a short time, may also exert a beneficial effect; but apart from that there can be no doubt as to the benefit resulting from mechanical trituration.

As to the time of year that trenching may be undertaken with the best results, autumn is, I think, to be preferred to any other. Then the soil is somewhat moist, but not wet, and in the best condition for the work being done with despatch. Digging is also best done in the autumn, but it is preferable to complete the trenching first. It ought to be the aim of the cultivator to have as little digging as possible during the summer. The most cogent reason is the scarcity of time, and also because it consumes more time relatively in the summer to dig a given piece of ground than it does in the winter. It is, of course, impossible to garden without summer digging, but it is as possible as it is convenient to reduce it to very small dimensions. For instance, ground set apart for Celery can be prepared early in spring, and in the case of that wanted for the later crops of Peas it is quite unnecessary to dig any more than the narrow trench devoted to each row.

The system of arranging crops so that one may follow another without the necessity of digging the ground for each is worth consideration. In this way ground producing Potatoes may be cropped after lifting without any preparation beyond forking. Catch crops, such as Endive, Lettuce, Radishes, Turnips, Coleworts, Kale, and Winter Spinach do well managed in this way. I commonly rotate Broccoli and other winter and spring crops after

Winter Spinach, and the latter is merely hoed down, allowed to dry for a few days, the ground cleaned, and the Brassica without other preparation planted. Late Peas generally succeed Broccoli. Here we have three crops in succession with one good preparation of the ground. Ground cleared of Onions also forms a perfectly good soil without re-digging. Celery also is a good preparatory crop.

It is to be noted that ground subjected to a thorough breaking up is greatly benefited by being trodden somewhat firmly when dry. This is invariably the case with summer cultivation, and the addition of moisture before seed-sowing is also important. In this matter, however, the soil should be slightly dried before covering seeds. Provided the ground has been thoroughly prepared the hoe as an instrument of cultivation during the summer is a factor not to be lightly esteemed. It not infrequently occurs in early spring that the surface of winter-dug soil is somewhat wet, and cannot safely be re-dug in the usual way. In the case of borders, or of ground that may easily be reached without trampling, the Dutch hoe pushed somewhat deeply through the part required for cropping is quickly followed by an access of dryness, so that in the course of a few hours it is possible to get the crop in. It is, however, as an agent in summer cultivation that the value of the hoe is greatest. A layer of loose surface soil stirred at intervals forms to the ground the best natural means for the conservation of moisture. It acts, at the same time, as a medium for the transmission of atmospheric heat, and it absorbs every drop of rain that falls, while it also abstracts from the atmosphere a greater proportion of fertilising gases than ground in a more or less hardened condition on the surface. Therefore, apart altogether from the position it holds as a destroyer of noxious vegetation, the use of the hoe is largely conducive to fertility.—B.

APPLE ROYAL LATE COOKING.

At the meeting of the Royal Horticultural Society on January 14th, the Fruit Committee granted an award of merit for this Apple. It is one of the seedlings which Mr. Powell raised at Frogmore, but has been long established as a favourite late cooking variety in the Royal household. The fruits exhibited were remarkably fine as the produce of a large standard tree, and were thus not assisted by thinning and feeding as many fruits are, and should be, for developing their fullest size and beauty for exhibition, and, in fact, for market purposes. The best fruit of all kinds pays the best, and attention to the points in culture indicated acts in the same beneficial way in the case of Apples, Pears and Plums as in Grapes. The fruits of Royal Late Cooking exhibited were what may be termed good ordinary samples. They had some resemblance to Lord Derby, but were more symmetrical, firmer and heavier. As was stated in our report of the meeting alluded to, Mr. Bunyard thought he could detect a trace of Tower of Glamis and Alfriston in the Royal Late Cooking; but, be that as it may, the fruits were fine. The illustration (fig. 20) does not represent the largest specimen that was examined by the Committee, but a typical example of the variety.

ERANTHEMUM PULCHELLUM.

It is probable that no winter-flowering plant is more popular than *Eranthemum pulchellum*. It is of very easy culture, grows freely to a height of 2 or 3 feet, and produces its blue inflorescence in extraordinary numbers. A stove temperature is best suited to its requirements, though I have grown it with fair success in an intermediate structure. I have tried several systems of cultivation, and have found that detailed herewith to give the most satisfactory returns.

It may be propagated by cuttings of the points of the shoots when the base is a little firm, as will be the case about June, taken off with two joints and the growing point. Remove the lowest pair of leaves, and insert the cuttings up to the next pair of leaves, singly in small pots. These should be filled with a compost two parts loam and one part leaf soil, with a half part silver sand. Make a hole in the soil, place some sand in the bottom, then fill round the cutting with silver sand and press firm. Place the pots in a bottom heat of 75°, cover them with a hand or bell-glass, and keep them close and shaded until the plants are rooted; then gradually withdraw the hand or bell-glass, by degrees remove the pots from the bottom heat, and afterwards transfer them to the stove or a vinery at work. The plants should be shifted into

larger pots when the roots become slightly matted round the sides of the cutting pots; 4½-inch or 5-inch pots will be suitable. The compost may now consist of two parts fibrous light loam, one part leaf soil, half a part of sandy peat, and a sixth part each of silver sand and charcoal in lumps from the size of a pea to that of a hazel nut. The whole should be well mixed and broken fine, but not sifted. The drainage should be good. The plants need not be again shifted into larger pots during the first season.

If plants with a single stem are required they must not be pinched, and they will attain a height of about a foot, and bloom from the axils of the leaves on the upper part of the shoot as well as at its point. If two or more shoots are required, we nip out the point of the shoot at the second pair of leaves, which will be all the stopping we ought to give if the plants are to flower in the following winter. The shoots will not need any staking or tying, but they should be kept about 1 foot from the glass, and the situation should be light and moderately airy. They are the better of a moist atmosphere and of a light sprinkling overhead morning and evening; but this sprinkling with water should not be

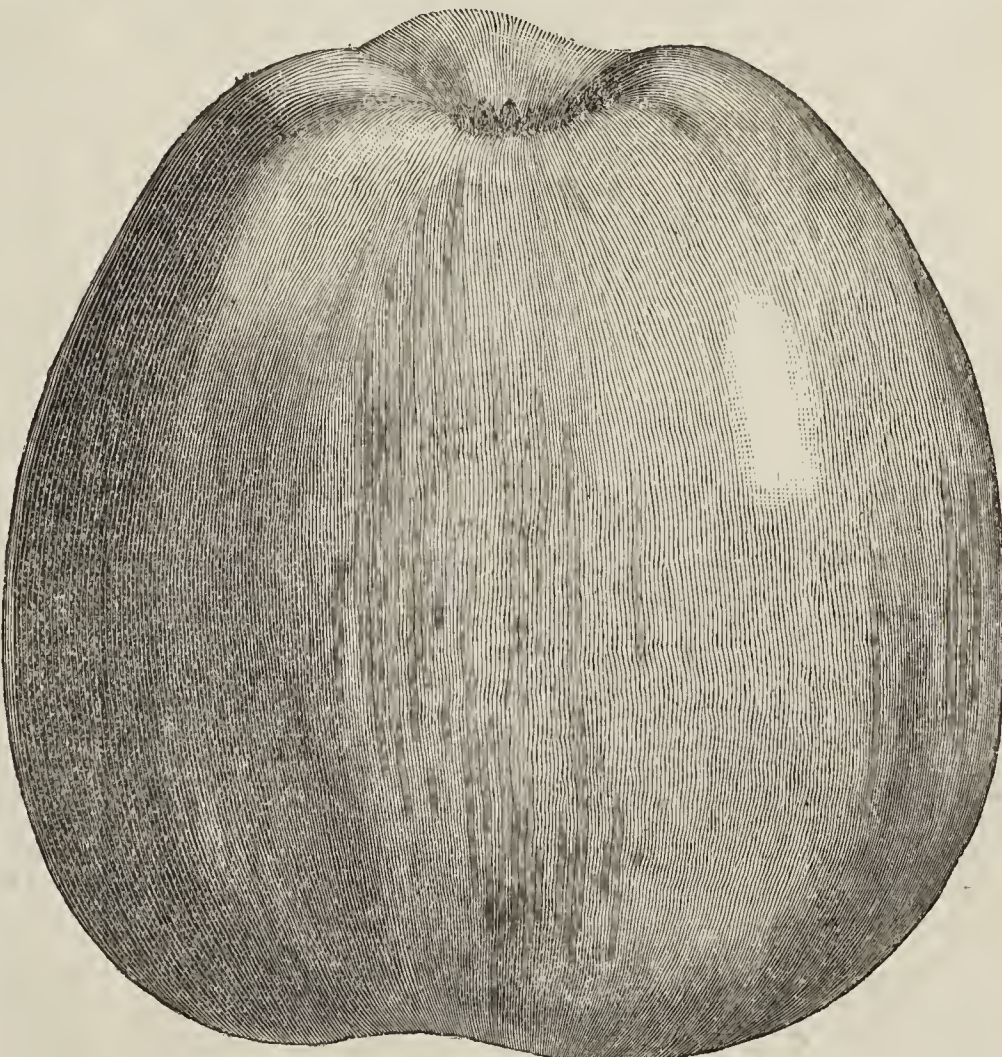


FIG. 20.—APPLE ROYAL LATE COOKING.

continued after the leaves are full sized, for the water dripping or hanging from the points of the leaves causes them to become black and dry up, marring the beauty of the flowers whether on the plant or in a cut state.

Copious supplies of water are required; the main point is to keep the leaves from flagging and yet not give any water before the soil becomes dry. If the plants are allowed to become dry the lower leaves will fall and the heads of bloom will be small. After September only enough water should be given to keep the leaves fresh, for, so long as this object is attained, the drier the plants are kept the more strongly they will flower. After they are advancing for flowering the soil should be kept moist.

Flowering commences with me in November, is at its best in December and early in January, and continues until March. To have the longest continuance of bloom the plants should be in two stages or more of growth—that is, there should be young plants, two-year-old, and old plants. The old plants will bloom earlier than the youngest, or the plants may be kept in winter in a temperature at night of 50°, and introduced to one of 55° to 60° as they are required to bloom. In a temperature of 45° to 50° at night they will not suffer if the soil and atmosphere be dry, and plants so kept flower in March.

After the flowering is over the plants should be cut back to two joints, or if the growths are weak to one, leaving, however, the shoots at various lengths, so as to give the desired bush form. When the fresh shoots are 2 or 3 inches long, turn the

plants out of the pots, remove most of the old soil, and repot in the same size of pot, keeping moist and shaded until the plants have recovered the potting, and then expose them fully to light, pinching out the points of the shoots as required up to July, so as to secure a good shape, and by the middle of that month they should have the final shift. The size of the pots will of course vary with the size of the plants, but these should not have very much pot room, as when this is liberal they are apt to have long joints and weak shoots, which do not produce good heads of bloom.—GROWER.

MUSCAT GRAPES.

THOUGH I can grow black Grapes fairly well, Muscats seem to beat me, and I do not know why. Can you tell me, in your answers to correspondents, what they particularly need in the way of soil, heat, and all the rest of it? The garden is rather low, and although the Vines grow freely enough the crops do not suit me.—WORKING GARDENER.

As we can scarcely tell our correspondent what he desires about soil, heat, and "all the rest of it," in the form of a brief reply, we commend the following notes by a successful cultivator to his attention:—

So much has been written about this Grape that it may be thought that nothing new can be advanced regarding it. Such may be the case, but I would venture to say that the Journal is always having added to its numerous readers young men just beginning life as gardeners who have not read all that has gone before on Vines and other horticultural subjects. There are also always new readers being added among the amateurs, and some of them may, perhaps, find the following notes of use; at any rate I offer them with that hope.

First of all it may safely be said that Muscat of Alexandria is a grand Grape, which should be grown by all who wish for high-class fruit. It is well worth the additional trouble sometimes required to have it in perfection, and those who are successful in its culture are always found extolling it in every way.

Nothing is more calculated to prove disastrous to the welfare of Muscats than too deep and ill-drained borders. Much time, labour, and expense have been laid out on Vine borders sometimes, which is very ill requited, in regard to Muscats, at least, for the simple reasons that the borders are made without enough drainage and also too deep. Give me a shallow border above the level of the ground, an abundant supply of water, plenty of good soil and manures to top-dress with every spring, and, other things being favourable, Muscats will thrive and fruit as freely as can be desired.

Regarding the varieties of Muscats much uncertainty prevails, and men of great skill and experience take entirely different views on the matter. Bowood Muscat has never been seen by the writer so distinct as to warrant its being cultivated under a different name. Indeed, the difference was more imaginary than anything else, as, knowing that what was called Bowood was being looked at, some slight difference was thought to be observed, and that is all. Grown side by side with other Muscats I have not noticed it any earlier than other varieties. There can, however, be no mistake in saying that Canon Hall Muscat is a distinct variety, and when successfully grown it is a splendid Grape in appearance and quality. It is, however, extremely fickle, and too often rewards its cultivator with a long straggling bunch with a few scattered properly set and swelled berries, and this after careful attention and artificial fertilisation.

In order to attain success in the culture of Muscat of Alexandria in addition to shallow well drained borders and plenty of surface feeding, I would advise that the rods be kept so far apart that all the laterals may be tied out at right angles to the main stems, so that the foliage may receive every chance of catching as much sun as possible, and that the wood may be thoroughly ripened, which does not happen sometimes, when shoots are too thickly laid in and the leaves unduly crowded.

Never be tempted to crop Muscats too heavily, the difference between Muscats that have been cropped so that they could finish their fruit well, and others which have been overburdened is so great that nothing should induce anyone to overcrop. In the one case well ripened, well swelled, and perfectly finished Grapes can be had; Grapes which will keep a long time and be a pleasure to eat. In the other case want of colour and finish, early signs of shrivelling, and a great want of flavour and sweetness result. Some cultivators advocate leaving the bunches so free from leafy covering that they will get the direct rays of the sun, but I have found that this causes scalding at the stoning period, and also turns some of the berries into raisins later on. If the Vines are in good order and not too heavily cropped, the bunches will colour quite

golden beneath a moderate amount of foliage, and then scalding and roasting into raisins can be avoided.

As a general rule it is advisable to use artificial fertilisation to secure a good set with Muscats. When the bunches are in bloom they should be brushed over very lightly with a feather or foxtail, choosing midday for the operation, at the same time endeavouring to maintain a temperature as near 90° as possible, with a circulation of air when such can be safely obtained. On some cold days in the spring, when the sun is powerful, raising the heat in the houses considerably, and when at the same time an east wind is blowing that chills everything it comes in contact with it, is extremely difficult to ventilate houses where Muscats are in bloom so that a circulation can be maintained without a chilling effect. This is one of the many difficulties a gardener has to contend with. In dull cold weather pipe heat must be resorted to, to maintain a temperature as near 80° as possible, and assiduous attention must be paid to the precious Muscats in the way of applying the feather or foxtail so that every bunch may be caught at the time when its pollen is ripe and ready. Nothing is more disappointing than a bad set of Muscats, as the labours of a season must then go in a great measure unrewarded.

In comparatively sunless summers it is often very necessary that much fire heat be used in conjunction with a judicious ventilation, in order that Muscats may be sufficiently ripened to enable them to keep well. When such is the case red spider too often appears. When first observed I advise an immediate attack with clean water and the syringe. Taken in time the red spider, may be checked, but allowed to get a hold, it is certain to make its mark before being overcome. Sulphur is thought by some to be effectual in checking red spider, but sometimes it is very doubtful whether the maintenance of a dry, or at least a comparatively dry, atmosphere at a time when plenty of moisture is beneficial, is not more calculated to enable the pest to thrive, in spite of sulphur, than if extra moisture and syringing were resorted to.

Mildew, generally the result of a too stagnant and damp atmosphere, is another trouble that sometimes affects Muscats seriously; but in most cases it might easily have been avoided if due attention had been paid to atmospheric conditions. Sulphur dusted on the leaves and painted on the pipes is sometimes resorted to in order to check the ravages of mildew; but I would say in this case as in others prevention is better than cure. Shanking may be caused by overcropping, sour borders, or sudden checks, and it should be the endeavour of all cultivators to avoid all these evils.

The question of the temperature necessary for the proper culture and ripening of Muscats has been in past years the subject of much controversy, some writers maintaining that they can be properly ripened under a cool system, and others—and I think the majority—maintaining that an extra amount of heat is required to properly finish all Grapes belonging to the Muscat family. The experience I have gained makes me decidedly of the opinion that heat in an extra quantity is required for the ripening of Muscats. This has sometimes prevented people undertaking their culture, but I can assure them that the extra heat and care required will be well repaid, for a quantity of golden Muscats is the result. Taking it with all its peculiarities and extra requirements this Muscat is a king among Grapes; it always commands due homage when displayed in regal splendour, and the many votaries of horticulture who attend the numerous exhibitions throughout the country are ever ready and willing to express admiration when this Grape is exhibited in prime condition. We know that some hesitate to attempt its culture through fear of not being able to provide some of its requirements, and to aid these the foregoing notes have been penned.

For packing and standing a railway journey the Muscat is first-rate, as it also is for the dessert table. Its keeping qualities are of the best, and altogether it combines such excellent and valuable qualities that no one should rest contented who cultivates Grapes and has not successfully grown the noble Muscat of Alexandria.—H.

THE RAILWAY COMPANIES' NEW DEPARTURE.

How fearfully in the past have railway companies been abused by agriculturists and others because their charges for the transit of various home-produced commodities have been seemingly high as compared with the rates charged for imported produce. It is very difficult to make these persons understand the economic fact that everything which relates to a wholesale business must be always worked on cheaper lines than any retail business can, and in just the same way the railway companies have carried the hundreds of tons of imported produce at lower rates than they have the small quantities in retail fashion of home-grown goods, simply because they could afford to do so. With them it has not been a matter of preference for the foreigner over

the home producer, but simply a matter of business, just, for instance, as the General Post Office carries a parcel weighing 12 lbs. at a relatively greater reduced rate over a small one of 1 lb.

But the companies referred to have shown that they desire to help home producers if possible, whilst endeavouring to foster for themselves a widely extended home trade; hence they have not only reduced rates for the transit of fruit, vegetables, butter, eggs, and poultry, very materially, but have done all that is possible to make these concessions known over the districts served by their respective lines. Then we have one company, the Great Eastern, actually preparing useful, cheap, non-returnable boxes or packages for the conveyance of small quantities of home produce to respective customers. So that it may indeed be said that all this does present a new departure, and one likely to be of immense value ultimately. But the response to this concession in rate reduction does not seem to have been so general as was anticipated.

Practically the so-called preference rates were useful to form elements of complaint or abuse, and their removal does but oddly enough form another of the grievances under which certain of the home-producing element labours. We may, indeed, see the time when so-called preference rates shall be reimposed at the demand of the agriculturists, just as now they seem to be anxious to secure the reimposition of the malt tax. But there can be no doubt that in a large degree the demand for reduced rates of transit for home produce was premature, for the obvious reason that home growers or raisers have not prepared themselves for the new state of things. They have spent so much time in grumbling that now the chance offers they have little or nothing to send to market.

The proper course to follow now is that of raising the very best possible of products, suitable for purchase by town consumers, and which are equally suitable for the cheap modes of transit. On how many farms is fruit or vegetable culture understood? indeed, the same may almost be said of poultry or butter productions. Country caterers for these commodities must remember that the town dweller compares home-raised products with those obtained from abroad, and humbled indeed should we too often be when we see how inferior in every way our products are. Patriotism may be a strong feature of the Britisher, but it chiefly consists in shouting. When it becomes a question of pocket, then the cheapest and best, come from whence it may, is always purchased. Thus we see the weak feature of the new railway rates concession to home producers is the latter's comparative inability to compete with the foreigner, not because of preferential rates, but because of his superior excellence of produce. Are our rural producers willing to go to school again, and unlearn all their old faults in favour of modern ideas such as shall place them on a footing with the now superior foreigner?

We are fond of boasting of our men, our ships, our money; but the secret of a nation's greatness and prosperity lies deeper than these superficial things. It is found in the intelligence, enterprise, energy, and integrity of the people. Given these qualities, and Great Britain may always be found the foremost of nations. In this matter of production we have the men, we have the land, we have the markets, we have indeed a glorious climate, but the needful knowledge and intelligence is sadly lacking. Nothing seems so difficult as to induce the mind to accommodate itself to fresh conditions and new requirements. The new facilities for local trade now offered by the railway companies have rendered it more than ever needful that the instructor in better methods should be abroad.

We must educate the producer up to the requirements of the consumer as they have been created by superior foreign productions ere the former can hope to compete equally with his great competitor. Even such an agricultural leader as Lord Winchelsea does this, for he adopts the shibboleths of the advanced teacher, horticultural or otherwise. There will be later also need for the establishment of collecting agencies, for with this work the railway companies will have nothing to do, but ere these be established they, to make them profitable, must have something to collect. It is evident, however, that there must also be town agencies or some other forces in operation to obtain customers. A collecting agency and a town sales agency with the even lowered railway rates would between them leave very little for the producer, whilst the consumer would be unable to purchase cheaper than in any other way.

How is the distant producer to find customers in town unless through some town agency? and even if there be good fortune in that direction, what will be the general effect on the produce trade? Already prices universally are so low that it is marvellous the original producer can live. The effect of turning large consignments of produce in small, or say personal, quantities, on to the town markets, could only operate to the lowering of prices still further. How, then, would the rural producer gain? The towns, and London especially, benefit exceedingly because the great masses of destructible produce is consigned to them, whilst the small towns and large villages benefit nothing.

After all would not the rural producer be wiser if, putting aside collecting or selling agencies, railways, and their costs, he seeks out private means of disposing of his own produce in his own district or area, where he can deliver to his customer at once poultry, eggs, butter, fruit, and vegetables? Such customers would be far more regular and reliable than town ones are, and they would not have had their tastes rendered so very critical by the ways and commodities of the foreigner. We have much more to face in connection with this interesting matter than is found in a useful reduction of railway rates.—A. D.



GARDEN ROSES.

I GREATLY appreciate the genial note of the Rev. David R. Williamson (page 123), and I do so none the less because his acumen in detecting an error is quite equal to the keen interest he takes in all matters relative to the "Queen" of our gardens. I much regret that I have caused Mr. Williamson to make so fruitless a search for a variety of Moss Rose not yet in existence, as he supposes. The one I referred to was the old "White Bath," but I originally penned the word in such a way that, like the printer, I took it for "Bush," hence the slip of the pen in regard to the derivation of the name. The variety is, however, well adapted for growing in bush form. We have two fine bushes of it, and as is the case with all other Moss Roses, the flowers are so greatly in demand that but few are allowed to fully expand before being cut for making sprays and buttonholes, or for other decorative purposes. When in that fascinating state, the bud, their peculiar charms seldom fail to win the admiration of all.—H. D.

ROSE GROWING.

(Concluded from page 124.)

POT CULTURE.

ROSES grown in pots are most useful, as they may be gently forced, and are convenient for the embellishment of the drawing-room or the conservatory. But a selection of both Teas and Hybrid Perpetuals must be made for the purpose, as some will be too rampant and others too weak for pot culture. Roses should be potted in lighter soil than those planted in beds, and the following makes an excellent mixture:—One barrowful of good loam, half a barrowful of decayed stable manure, half a barrowful of leaf mould, and a quarter of a barrowful of broken charcoal. The pots must be properly drained, a few pieces of crushed bone placed over the crocks, then some broken turf to prevent the fine soil from choking the drainage. The roots of the plants must, if possible, be disentangled in potting, keeping the junction of the scion and stock just below the surface, as by so doing the plant has two chances, being partly on its own roots and partly on those of the Briar.

Hold the plant in position with the left hand, work in the soil, making it firm with a rammer, as I believe the great secret in getting a good root formation is to make the soil sufficiently firm. They should be repotted as they require it, but May and October are the most suitable times for doing this work. If the operation is carried out in the latter month plants must be placed in a cool house, and if possible plunged in leaves or ashes, damping occasionally with the syringe. They must be started very gently, or the result will be a rapid head growth before the roots have commenced to grow.

To have the plants flowering at a certain date requires judgment and forethought. If Roses are desired about Easter they should be started early in January. They will not require a very high temperature, and of course they can be had much earlier under special circumstances.

Plants that have become root-bound should be supplied with stimulants in a mild form, the drainings from the stable or cowsheds, diluted to the colour of pale brandy, suiting them admirably. Soot placed in securely tied bags and allowed to stand in a tub of water is an excellent manure for them; but whatever is used must be with care, commencing with it very weak and increasing until the blooms are opening. This treatment will be found suitable for Teas and Hybrid Perpetuals alike, except that the soil should be made a little heavier for the latter.

VARIETIES ADAPTED TO POT CULTURE.

Teas—Catherine Mermet, The Bride, Grace Darling, Innocente Pirola, Madame Lambard, Madame de Watteville, Gloire de Dijon, Madame Falcot, Niphetos, Perle des Jardins, Safrano, Souvenir d'Elise Vardon, Souvenir d'un Ami, Jules Finger, and Madame Cusin.

Hybrid Perpetuals.—John Hopper, La France, Merveille de Lyon, Madame Lacharme, A. K. Williams, Madame Victor Verdier, Dupuy Jamain, Baroness Rothschild, Boule de Neige, Marie Baumann, Dr. Andry, La Rosière, Maréchal Vaillant, Ulrich Brunner, and Helen Paul.

PRUNING.

This must depend entirely on the season and locality. I find it is a great mistake to prune too early, because bright, mild, sunny days cause the plants to break into growth quickly, and they are in danger of being cut off by late spring frosts. Where good blooms are desired pruning must be done in a systematic manner, removing weak, puny growth, retaining only strong, well ripened wood, which, as a rule, should be cut back to one or two buds. Of course the shape of the tree must be taken into consideration, and where a gap occurs it will be necessary, by leaving a suitable growth, to fill it. Strong growing varieties should not be pruned quite so closely as the freer flowering and weaker ones, as by doing so they make very vigorous growth and produce few flowers.

Plants which have been planted so that the junction of the scion and stock are under the soil will most likely throw up strong growth, which, if made early in the season, will be well ripened and matured. This is

the way to make a good tree, but if such growth is made later in the season it ought to be cut away, as a severe frost is almost sure to kill it.

STOCKS AND PROPAGATING.

There are different kinds of stocks used for budding or grafting on, but those mostly used are the Briar and the Manetti. The former is always used for standards and half-standards, and is much used for dwarfs, the Manetti also being used for dwarfs, but the growth, being more sappy and soft, does not stand the winter so well.

Budding is the most approved method of propagating Roses, and is so simple that it can be easily done by anyone. The latter part of June and early in July is the best time for budding, as the stocks will have made strong growths and be at a proper stage of ripeness. Standard stocks will have made three or four shoots, any others forming below should be removed. Insert the bud very carefully and as quickly as possible, so that the sap of either the stock or the scion does not become dried up. The union will have been effected all being well in a month, when the binding may be removed to allow the bud and stock to expand.

Grafting is another method of propagation, the side or splice and the crown grafting answering best, but the union is not so perfect as when budded. Layering is a sure way of increasing dwarf Roses, and should be done about the end of June or early in July. Cuttings are best made from half-ripe wood of the current year, and should be cut about 10 or 12 inches long, with a heel if possible. Cuttings should be put in early in August, and allowed to remain in the same bed for about twelve months, when they may be shifted to their flowering quarters.

STIMULANTS.

The use of stimulants requires judgment and forethought. A healthy plant will assimilate what is supplied to it, if used rightly, with telling effect, but a weak and sickly plant cannot do so. There are various manures used in both plain and concentrated forms, which are rich in nitrogen or ammonia, and of course the safest to use is the draining from the stable or cowsheds, diluted with water to about the colour of brandy, or a bag of soot placed in a tub, to be used alternately, will be found an excellent manure for them. Concentrated manures should be used according to the directions which accompany them.

PESTS AND VERMIN.

Red spider, green fly, mildew, and rust may be considered the greatest enemies to the Rose grower, but fortunately all but the last-named can be eradicated. Red spider is brought about by a dry atmosphere and drought. It can easily be detected by the appearance of white patches on the leaves, which, if closely examined, will be covered with numerous little red and white specks, and a microscope will reveal a very fine web covering the affected part. Trees so attacked should be forcibly syringed with a solution of carbolie soap or Gishurst compound. Under glass green fly can be easily destroyed by fumigating the house with tobacco smoke or vapour, but in the open they may be destroyed by taking the branch in the hand and brushing it with a moderately stiff camel-hair brush. Maggots or caterpillars are very troublesome, and are often the cause of much disappointment. The only effectual way of eradicating these is to examine the leaves and buds, where they will be found in a web, with the leaf curled. Mildew is a troublesome pest, and is brought about mainly by changes of temperature, such as a very hot day and an extremely cold night. The parts affected should be dusted with flowers of sulphur, or dressed with any of the specifics advertised for the purpose. Rust, or orange fungus, causes trouble in dry seasons, and unfortunately there is no remedy by which to destroy it. The best thing is to pick the affected leaves as soon as it presents itself and burn them.

In conclusion it will be noticed I have not touched on exhibiting, my reason for having omitted to do so being that I do not claim to know much about it, never having put up a stand of Roses for competition. But if the amateur has the ambition to do so, my advice to him is, first, to learn the points of a good Rose, which can best be learnt by visiting some of the principal Rose shows and studying the blooms in the winning stands. I will endeavour first to describe the points of a show bloom:—It must be perfect in shape, full, having plenty of petals of good substance, must not show the eye, fresh and free from blemish, and not too far advanced.

A last word is this, whatever we attempt and wish to be successful in, we must devote as much time and skill as circumstances will allow to obtain a successful result.—H. PROSSER.

HYACINTHS IN GLASSES.

I HAVE now a dozen Hyacinths in water, all in superb condition, and, though they have not been in any way forced into growth, every plant is now from 2 to 3 inches in height; the foliage short, stout, and very robust, with a fine spike of beads rising up through the midst of it. From the time that the bulbs were placed in water, at the beginning of November last, up to the present moment, the liquid has been changed in but one of the glasses, and that because it had become tainted from some cause. In that case the roots of the Hyacinth, which were 8 inches in length, were carefully cleansed in some tepid water, the interior of the glass was cleansed also, and some fresh water added, and now the plant is as healthy as can be desired. The glasses occupy the window-sill and a small table by it, and are thus fully exposed to the light. All that I

find it necessary to do is to keep the glasses supplied with water as the quantity decreases by evaporation; and I now fill the glasses to the brim, even though the bulb becomes nearly or quite submerged. If the foliage becomes drawn to the light the simple act of turning the glass round soon sets it right.

I have been led to state this much, because I have within the past two or three weeks met with cultivators of the Hyacinth in glasses who have complained of failures and have deplored their disappointments. Perhaps some cultivators err through too much attention, and injure the plants by overmuch kindness; at any rate, I am decidedly opposed to the advice that recommends a constant changing of the water unless urgently needed. I have known some indoor gardeners who have been in the habit—once a week at least, and in some instances more frequently—of changing the water, entirely removing the bulb from the glass in the act, attempting to cleanse the delicate rootlets, I fear in many instances doing them material injury by so doing. This is neither called for nor to be commended.

I believe many failures result from two things—1st, that cultivators will not place a few small pieces of charcoal in each glass to purify the water; and 2ndly, and I much fear too frequently, from sheer neglect. I never think of growing Hyacinths in water without the aid of charcoal, and I always advise its employment. In the case of nearly all my Hyacinths the rootlets have so encircled, and, as it were, embraced the lumps of charcoal, that it would be impossible to remove them from the glasses without breaking the vessels, and the development of the foliage and spike is all that could be desired. Neglect is a sad destroyer of plants. I have frequently seen on a bright sunny day in the early part of March a row of Hyacinth glasses in a window, with the full force of the sun playing on them, and the glasses only half filled with water; or else, neither is the window open to give ventilation, nor the blind pulled down to screen the plants from the roasting influence of the sun. In many of these cases the first love has cooled, and with inattention will come certain disappointment and decay.

If ladies especially could only come to realise in some degree the sweet pleasure of cultivating with average success some Hyacinths in glasses—to daily watch for the development of the leaves, and then the flower spike, buds, and blossoms, I am certain that many, very many, more would be induced to make an attempt; and I am also well assured that where neglect now destroys the pleasureable harvest there would surely be seen loving care and its fitting reward.—FLORA.

WINTER ACONITES.

THIS cheerful-looking plant, with its bright yellow flowers, is not half so often met with as it ought to be, for, like many other favourites of former days, it is utterly neglected by the fashionable flower gardener, who, in limiting his display to a certain period, has totally ignored the remainder of the season, and at least the first two and the last two months in the year have no place in his calendar. The plant is of neat growth, and produces richly coloured blooms, equalling in that respect the best forms of the bedding *Calceolaria*; and although it blooms very often in January, and more abundantly in February, at a time when flowers of all kinds are scarce, its importance seems not to be duly appreciated, probably owing to some idea of its being difficult to manage, and also, perhaps, from its not being sufficiently known. Be this as it may, a plant with bright shining foliage of a clear unspotted green, with flowers larger than the Primrose, supported on stalks not more than 3 or 4 inches high, and appearing almost in midwinter, ought not to be lost sight of. It is by no means plentiful; possibly it was more so half a century ago, and the places where it is most likely to be found in quantities are some of the old-fashioned gardens which it is a treat now and then to meet with.

Perhaps one of the causes of this plant's not being more frequently met with in fashionable winter or spring bedding is the fact that it does not transplant so well as many others, and the best examples of it are seen where it has been let alone for two or three years; then it rushes up in luxuriance every Christmas, and blooms at the proper time. The best examples usually seen of it are planted as edgings to Rose beds, and also as edgings or rings round single trees or shrubs, where it is not disturbed the whole year round. In such places it ripens seed, sows itself, and often comes up amongst the turf, or it may be on the gravel walk, and it also increases itself at the root, but not very rapidly; so that in most cases where an edging of it is wanted I would recommend sowing the seed as soon as it is gathered, and that care should be taken that it is not disturbed till the ensuing spring, when it comes up thickly enough. Excepting transplanting in order to fill up defective places, I would leave the plants in the seed row unless they are very close together, in which case thinning may be necessary.

Usually this plant thrives in a dry open soil, but our experience with it shows that it also succeeds well in one of a somewhat chalky character, as we have seen it in such a position struggling successfully to maintain itself amongst the grass and other herbage under trees. If grown in the mixed flower border a stout stick or other low mark should indicate where it is, as during a great portion of the year the bulbs are dormant and there is no foliage. The edges of rockwork also afford a favourable position, likewise the margins of shrubberies and similar places. Early in February, when it shows itself along with the Snowdrop and Primrose, no plant is more generally welcomed; and whether growing at the base of a palatial residence, or as a patch by the pathway to a rural cottage, it is equally at home.

Although I have advised sowing the seed where the plant is wanted, the Winter Aconite bears transplanting tolerably well when it has just started to grow, and in such a condition it may be removed without much injury from the seed bed; and as this is often more convenient than the other modes of obtaining a quantity, I may remark that it answers very well. In some soils that suit the plant it is extremely accommodating, and I have seen it overcome grass and other herbage that usurped its place in the autumn; therefore, those anxious to have it in abundance need not be apprehensive of its want of constitutional vigour, provided the soil is of the right kind. Its greatest enemies are the spade or digging fork, and in some cases the scythe; in other respects the Winter Aconite is better able to take care of itself than many other plants, and, as I have already remarked, few are more worthy of notice, coming into bloom amongst the very earliest of the early flowers, and presenting us with the same glittering tint of yellow which renders the Crocus so acceptable, while it is some weeks before it and altogether of a different character.—J. N.

INSTABILITY IN PLANT NOMENCLATURE.

AT various times this subject has been referred to in the *Journal of Horticulture*, and it is now again brought to mind by the "Hand List of Orchids Cultivated in the Royal Gardens, Kew," of which the authorities have forwarded us a copy. This being probably the latest list of Orchids emanating from an authoritative source it was regarded as a valuable handbook of reference, by the aid of which occasional difficulties might be solved on the spelling of plant names; but in glancing through the pages we noticed several departures from the *Index Kewensis*, and on closer comparison it was seen that the two authorities were in direct variance in one particular, of which the following are instances. The names in the first column are taken from two pages of the list just received.

Kew Hand List of Orchid Names.	"Index Kewensis" Names.
Cypripedium dayanum	Cypripedium Dayanum
" Druryi	" Drurii
" harrisianum	" Harrisianum
" haynaldianum	" Haynaldianum
" klotzschianum	" Klotzscheanum
" lawrenceanum	" Lawrenceanum
" Lowii	" Lowei
" lindleyanum	" Lindleyanum

It will be perceived that the conflict lies mainly in the initial letter, the former work using the small, and the latter the more familiar capital. But there are other divergencies, for one authority gives as correct rendering of identical original names—Druryi and Lowii, and the other Drurii and Lowei, while the Hand List gives *klotzschianum*, and the I.K. *Klotzscheanum*.

When such differences appear in standard works of reference it cannot be wondered at that horticulturists should experience difficulty in the rendering of plant names. On referring to another hand list from Kew, we observe the same peculiarity in utilising the small in preference to the capital initial letter in identical names.

If the compilers and editors of the Kew Hand Lists have higher authority for this practice, which we, in common with Mr. Watson, in "Orchids; their Culture and Management," and Messrs. Veitch, in the "Manual of Orchidaceous Plants," have adopted, perhaps they will be good enough to enlighten us, and also say whether the official handbook under notice, or the *Index Kewensis* should be taken as the standard guide in doubtful matters regarding plant nomenclature? If the great work mentioned is to be superseded in this reference by the later and infinitely smaller, we cannot but think it a pity; while, if the authority of the *magnum opus* is to be maintained, why the sudden departure indicated as coming from the same source? One of the young lions of Fleet Street describes it as a provoking case of Kewish instability.

AN ENCYCLOPÆDIA OF GARDENING.

A NEW work has been sent to us under the above title. The author is Mr. T. W. Sanders, F.R.H.S., and the publishers Messrs. W. H. and L. Collingridge. Mr. Sanders is one of our old and respected coadjutors; indeed, as a writer it may almost be said of him that he served his time on the *Journal of Horticulture*, and it is a matter of great satisfaction to us that he has made such good use of it. He was in those days a thoughtful, hard-working young head gardener, always searching for knowledge and striving for excellence in whatever he essayed to accomplish. His spare time, such as he had, was spent in gaining information, and one of his methods to that end was in imparting such as he had obtained—namely, in writing for the Press. In this exercise he took the same pains as he would in thinning a bunch of Grapes, making a bouquet, or in discharging any other practical duty. He commenced modestly and continued perseveringly, learning as he went along, till he made himself as competent with the pen as the spade.

The way in which he succeeded in literary pursuits is best known to himself. He may have written articles over and over again, as many of the best writers have done before they left their hands; one thing is certain, he did not complain of "editorial mutilation," but, on the contrary, noted, and in the end profited by, every correction, whether in the way of excision, transposition, or substitution. He may not have thought his communications were improved in every instance, and

perhaps they were not. Be that as it may, they eventually became open to very little improvement, and he has since learned the reason for certain turns and twists which may once have puzzled him, for he is now an Editor. We congratulate him on his success in that direction, and on the production of this very handy and useful work of reference.

It is described on the title page as "A Dictionary of Cultivated Plants, &c.," and is announced as "giving an epitome of the culture of all the kinds generally grown in gardens in this country, together with a complete list of their common or popular names." Whether every cultivated plant is included or not, or whether the name list is absolutely complete, we do not know, nor should we like to search through the thousands of entries for testing the matter, as we are fully satisfied that there is enough, and more than enough, information for the money, between the covers. We do not suggest that the chief title of the work is not justified, for if we take the meaning of the word "Encyclopædia" as "a comprehensive summary of knowledge or a branch of knowledge," it precisely indicates the character of the book, but all the same we prefer the sub-title, and we have no doubt that the work will settle itself down in the gardening world as "Sanders' Dictionary."

It is emphatically a summary, and in some instances a comprehensive one, as some pages contain fifty subjects, while the Rose, for instance, has three closely packed pages all to itself. This is not an implication that this is an excessive amount, for it is clear the author has sought to economise space to the utmost extent consistently with giving the information conveyed, or he would not have abbreviated so many words. The scientific and popular names of plants are given, the order to which they belong, their native country, when introduced, methods of raising, with appropriate soil and temperatures; but the leading points in cultivation are also given for all important crops. Turning to the Pea as an example, we find (after the classification founded on the ripe seeds; and sub-classes, such as Early, Second Early, Main Crop, and Late Group) selections of varieties are given in each, with times of sowing and gathering; manure formulas, with a compressed record of routine work. It is the same with other crops, while the culture of many popular plants is epitomised, some in few, others in many words, yet with few words wasted; while many, as above noted, are only half, or less than half, printed, and yet readers will know very well what they mean.

We were about to give an extract for showing the character of the book, when a letter arrived from the Secretary of a Gardeners' Improvement Society on the perennial subject of disputation as to whether the ordinary so-called "bedding Geraniums" are Zonal Pelargoniums or not. We have probably answered the question a hundred times, and now we cite from the work under notice:—

GERANIUM (Crane's-bill).—Ord. Geraniaceæ. Hardy herbaceous perennials. Nat. Britain, Pyrennes, Italy, Madeira, Georgia, Iberia, Siberia, Himalayas, Nepaul, Tauria, N. America. Int. (foreign species) 1567. Ht. 3 in. to 3 ft. Species cultivated, about sixteen. Flowers, red, purple, violet, rose, lilac, brown, black, blue, crimson; May to October. Soil, ordinary rich. Position, tall kinds in sunny well drained borders, dwarf kinds on sunny rockeries. Plant, October, November, March, or April. Apply weak liquid manure occasionally to established plants in flower. Propagate by seeds sown one-eighth of an inch deep in ordinary soil in sunny position outdoors March or April, or in shallow boxes of sandy soil in cold frame or greenhouse March; division of roots, October, November, March or April.

On turning to Pelargoniums we find the author has inadvertently departed from alphabetical sequence, but that with other small accidentals can easily be rectified in the next edition.

PELARGONIUM (Fancy, Show, Zonal, Ivy, and Scented Pelargonium, Stork's Bill "Geranium").—Ord. Geraniaceæ. Greenhouse and hardy annual, biennial, herbaceous, evergreen, shrubby, and tuberous-rooted perennials. Flowering and orn. foliage. Nat. Cape of Good Hope, Canary Islands, Taurus, Australia. Int. first species (*P. triste*) 1632; *P. zonale*, 1710; *P. inquinans*, 1714; *P. grandiflorum*, 1794; *P. peltatum*, 1701. Ht. 3 in. to 10 ft. Greenhouse evergreens.—Zonal: Leaves roundish, cordate, lobed, pubescent, green, with or without horse-shoe mark near margin of upper surface. Sub-classes: Bicolor.—Leaves green, edged with white, or white, edged with green. Tricolor.—Leaves green, white, yellow, and crimson. Bronze.—Yellow with bronze zone. (All these are used for bedding.) Specimen Zonals: Insert cuttings in August or September, grow in 2-inch pots until March, then transfer to 4-inch sizes. Compost as above. Nip off point of main shoot in March, also of side shoots when 3 inches long. Tie these firmly to wire fixed to rim of pot, and allow young shoots to form in centre. Remove all blooms first year. Transfer to 6-inch pots in May or June. Grow in greenhouse near glass. Water freely during summer, moderately in winter. Apply stimulants, June to September. Shorten shoots two-thirds in January. When new shoots form repot. Nip off points of shoots where necessary to ensure good shape. Compost as above. Stimulants for Zonals: Nitrate of soda, quarter ounce to a gallon of water, applied once a week, when soil is moist only, for three or four weeks, then cease; sulphate of ammonia, same as nitrate of soda; soot-water (one peck each of sheep and cowdung, and half-peck of soot to thirty-six gallons of water), diluted with half water, applied twice a week.

These citations show (1) that Geraniums are hardy herbaceous plants, (2) that Zonal Pelargoniums for bedding and otherwise are greenhouse evergreens, and (3) that the Encyclopædia is a dictionary and something more. It is a handy useful work of reference extending over 430 closely packed pages, and it is clear that much research and persevering diligence have been exercised in its compilation. The value of the work is in no sense indicated by its price, which we are informed is only 3s. 6d., and in this respect we scarcely think the publishers pay their editor the compliment to which he is entitled.



WEATHER IN LONDON.—Again the weather has been changeable. On Saturday and Sunday it was genial and spring-like, but Monday morning opened foggy, rain falling slightly towards evening. Tuesday was slightly colder, but the atmosphere was by no means clear. On Wednesday it was clear and cool.

— WEATHER IN THE NORTH.—The unseasonably mild and dry weather of the preceding fortnight gave way to rain on Friday afternoon, and the following night and the earlier part of Saturday were very wet. Since then till Tuesday morning S.W. winds with frequent showers have prevailed. The thermometer on Monday at 8 P.M. stood at 48°, on Tuesday morning at 49°.—B. D., *S. Perthshire*.

— METROPOLITAN PUBLIC GARDENS ASSOCIATION.—From the thirteenth annual report of the Metropolitan Public Gardens Association it appears that permission has been granted to that body to lay out several new recreation grounds, amongst which not the least important are the churchyards of St. Matthew, Bethnal Green, and St. James, Pentonville Road; the burial grounds of Guy's Hospital in Bermondsey, and of a chapel in York Street, Walworth. Two other open spaces are already being prepared—namely, the riverside ground at Battersea, and the disused graveyard of the Society of Friends in Long Lane, Bermondsey. There are still many plots of land which the Association is anxious to see purchased for recreation pleasures, including vacant sites in Deptford, Walworth, the Borough, Bromley, and Bloomsbury. The income of the Society during 1895 amounted to £2738 8s. 5d., against £4193 3s. 5d. in 1894, showing a decrease of £1454 15s. A promise of £1000 has been made by the City Parochial Foundation for the laying out of East Street, Walworth, site, when secured, and another of a sum of £600 for St. James, Pentonville.

— THE EALING GARDENERS' ASSOCIATION.—A meeting of this Society was held on the 28th ult. Mr. J. Hudson, Gunnersbury House Gardens, spoke upon "Conservatories: their Design and Arrangement." It was rightly suggested that owners of gardens should consult their gardeners in respect to the erection of structures for the growing of plants as a means of avoiding common but disastrous mistakes. Conservatories were occasionally erected on unsuitable sites, being between two dwelling-houses with blank walls around them, lofty, and with no means of ventilating the sides. A lantern roof was recommended as the best to employ. A conservatory should be as fully adapted to the growing of plants as were ordinary plant-houses. Other valuable hints were given upon the importance of using good glass, and upon the best methods of heating, and a remark made that conservatories were sometimes badly heated because dependent upon the apparatus connected with the mansion. The construction of the floors, doors, and other particulars were dealt with, and afterwards Mr. Hudson gave descriptions of the best methods of arranging the plants in the structure, of the use of rockwork in suitable places, and other matters.

— STORING APPLES IN PEAT MOSS.—Having recently been shown a quantity of Apples and Pears stored in a wooden outhouse or shed with a covering of the finer portion of peat moss—such as used for horse bedding—over the fruit, I am induced to inquire if any of your readers have ever tried the experiment, especially as the fruit in question was as fresh as when gathered from the trees. The fruit was simply covered with the material without any intervening covering, and the scent and flavour of both the Apples and Pears were not perceptibly affected thereby; in fact, the aroma was as strong as when the fruit was gathered. Being inodorous the material obviously is superior to such as straw, hay, or sawdust for the purpose indicated, and not so likely to become musty. In proof of the material's protective quality I may add that the Apples and Pears thus preserved during the severe frosts last winter did not sustain any injury. The only drawback—and that a slight one—accruing is the trouble of wiping or brushing the dusty particles off the fruit when required for use, but that little difficulty could be readily overcome by placing a layer of paper between the fruit and the material, or the more troublesome mode of enveloping each fruit in paper.—W. G., *Birmingham*.

— KEW GUILD.—The annual general meeting of the Kew Guild will be held in the Gymnasium, near Kew Gardens Railway Station, on Thursday evening, February 27th, at 7.30 P.M.

— FLORAL INTRODUCTIONS.—In referring (on page 117) to the number of introductions that have been made by Messrs. J. Carter & Co., there was an error which, though it would be obvious to most readers, we think it right to correct. We said—the work commenced in the year 1887, instead of which it should have been 1857.

— WOOLTON GARDENERS' MUTUAL IMPROVEMENT SOCIETY.—This useful Society commenced the second half of the session on Thursday last, when the Rev. Harold Buckton, M.A., delivered an excellent lecture on "Aphidæ, or Green Fly." There was a very large attendance, the interest in the lecture being greatly enhanced by numerous diagrams and mounted specimens. A unanimous vote of thanks was passed to the lecturer.

— ROYAL METEOROLOGICAL SOCIETY.—At the ordinary meeting of the Society to be held at 25, Great George Street, Westminster, on Wednesday, the 19th inst., at 7.30 P.M., the following papers will be read:—"Report on the Phenological Observations for 1895," by Edward Mawley, F.R.H.S., President; "Notes on the Recent Unusually High Barometer Readings in the British Isles," by Robert H. Scott, M.A., F.R.S.; "Turner's Representations of Lightning," by Richard Inwards, F.R.Met.Soc., F.R.A.S.

— THE HESSLE GARDENERS' MUTUAL IMPROVEMENT SOCIETY.—A meeting of the above Society was held on February 4th, when a paper was read by Mr. Wm. Martin, seedsman, Hull, on "Bulbs." The essayist had communicated his intention of giving this paper to some of the principal Dutch growers, and had received from them all the details of propagation and growing of bulbs in Holland for sale in this country. Some specimens of bulbs started into growth, with the bulblets clustering round, were also sent; and altogether Mr. Martin's paper proved most instructive and interesting. The cultivation of bulbs in this country was not touched upon, but will be dealt with at the next meeting.—F. L. T.

— WAKEFIELD PAXTON SOCIETY.—At a recent meeting of this Society Mr. R. Scott, of Bradford, delivered an interesting address on "The Extension of the Vine." Mr. W. Tunncliffe presided, and Mr. J. G. Brown was vice-chairman. Mr. Scott, who is a well-known and experienced gardener, and a member of the Bradford Paxton Society, strongly advocated the extension of the Vine, especially in the case of old Vines. Some remarkable instances of the success of the system were given, the dimensions and yield of some of the most noted Vines (such as the Valentine, Hampton Court, Cumberland Lodge, Selwood Park, Manresa House, Roehampton, Kinnell House, and others) being dwelt upon. In planting Vines some preferred cut-backs; he (Mr. Scott) believed in planting from eyes. There were many varieties of Vines, but the best could be counted on the fingers of one hand, and Black Hamburg could not be surpassed on the whole; it was one of the best and most useful. A vote of thanks to Mr. Scott was heartily passed.

— BULBILEGIUM HAARLEMENSE.—It may interest those readers of the *Journal of Horticulture* who admire and cultivate all the varieties of bulbous plants for which Haarlem is so famous, to know that the beautiful series of coloured portraits of these plants, published at Haarlem between the years 1872-1881 under the title of "Album van Eeden," by the now defunct house of that name, and which constitute by far the most beautiful series of portraits of bulbous plants with which I am acquainted, is about to be resumed under the above more representative title, under the joint editorship of a Committee whereon most if not all the leading bulb-growing firms will be represented. The choice of subjects to be illustrated in the work will be decided by a vote of the majority of this Committee, which should be a guarantee that only the most distinct and real improvements on all existing varieties will be figured. The work is to be published at Haarlem by Messrs. De Erden-Loosjes, who hope to issue it in quarterly parts, each of which is to contain three large plates, which will be reproduced in chromo-lithography by G. Severyns of Brussels. The subscription price is to be 15s. for twelve plates, which does not include postage. There will also be a short descriptive text in four languages—Dutch, German, French, and English. This series is expected to go on for five years, which will form a handsome large quarto volume of sixty plates. The first part is expected to be published in about three weeks' time, and subscribers' names may now be sent in either direct to the publishers or through any of the leading Haarlem bulb-growing firms.—W. E. GUMBLETON.

— GARDENING APPOINTMENT.—Mr. W. Rushton, late of Drumpellier Gardens, has been appointed gardener to A. Whitelaw, Esq., Gartshore, Kirkintilloch.

— DEVON AND EXETER HORTICULTURAL SOCIETY.—The dates of the exhibitions of this Society for this year are as follows:—Summer exhibition, August 21st; autumn exhibition, November 5th and 6th; to be held at Exeter.

— THE ROYAL GARDENERS' ORPHAN FUND.—We have great pleasure in announcing that His Grace the Duke of Bedford has consented to become President of this admirable institution, as the successor of the late Sir Julian Goldsmid. This intimation will be received with unqualified satisfaction by all who are interested in the prosperity of the Fund, which has already done so much good where it was most needed, and is destined to do more.

— ALFALFA AS A HONEY PLANT.—The cultivation of Alfalfa has added considerably to the honey crop of the United States. No other honey plant has given such a "boom" to bee-keeping, especially in the Western States. This plant stands the drought, and when well rooted seldom fails to produce heavy crops of hay and seeds when almost everything else fails, as its roots penetrate very deep in the ground, in many cases reaching water at 15 feet deep. I have seen a continuous flow of honey from this plant, commencing the middle of May and lasting until the 1st of September, for several years, without any regard to drought or season. Alfalfa honey differs but little from White Clover. It is in every respect as good, and is quoted in the markets at the highest price.—A. H. DUFF (in "American Agriculturist.")

— READING AND DISTRICT GARDENERS' MUTUAL IMPROVEMENT ASSOCIATION.—That the interest in "the Queen of the Autumn" flowers is still greatly on the increase was amply testified by the large attendance of members present at the fortnightly meeting of the above Association, held in the Abbey Hall, to hear a paper on "Chrysanthemums" by Mr. W. H. Lees, Trent Park Gardens, New Barnet. Mr. Lees, who received an enthusiastic reception, read a most practical and interesting paper. The lecturer dwelt briefly with the routine points of cultivation, and, in conclusion, said that Chrysanthemums were the most responsive of all plants to generous treatment; and to the amateur with his small accommodation, or gardeners better situated in this respect, the growing of these plants is one of the most pleasurable and interesting hobbies anyone can undertake. The thanks of the meeting were accorded to Mr. Lees for his lecture, and to Messrs. Sutton & Sons and to Sir William Farrer for their kindness in sending the flowers.

— THE EPPING FOREST COMMITTEE.—A report of this Committee's work during the past year has been issued. They refer to the report of experts appointed by the Corporation of the City of London to inspect the work of the Committee in connection with the removal of trees, as a further vindication of their policy and action. The Committee state that they propose to thin to a moderate extent over a somewhat large area, an arrangement in accordance with the views of the experts in regard to the portions visited by them. They have also resolved to plant one or two strips in the neighbourhood of Buckhurst Hill and Loughton. Work has been found in the Forest for the unemployed, the roads and drainage in portions of it having been greatly improved. A museum has been established in Queen Elizabeth's Lodge by the Essex Field Club, for the purpose of illustrating the natural history and archaeology of the Forest parishes. The exhibition includes geological specimens, stone and bronze implements, Romano-British pottery, fungi, forest mosses, flowering plants, insects, mollusca, snakes, lizards, and amphibia, and a complete collection of the eggs of birds known to have nested in the Forest, with a series of woodcuts of all the species. There are also maps, views of the Forest, geological sections and plans, and the whole forms a very interesting collection. The Forest continues to be extremely popular as a place for the recreation and enjoyment of the public, and during the past year the Committee set apart for the use of various cricket clubs forty pitches and sixty-six grounds for the use of football clubs. These are in addition to the thirteen pitches at Wanstead Flats, occupied by twenty-one clubs; five pitches at Chingford, occupied by seven clubs, under the control of the London Playing Fields Committee; and nine cricket pitches at Wanstead Flats, occupied by thirteen clubs, under the control of the Corporation of West Ham. There are also three golf grounds on the Forest lands, and other portions are set aside for lawn tennis.

— MILDNESS OF THE SEASON.—Writing from Reading under date February 6th, "A. C." observes, "I have Daisies on the lawn, and the yellow Crocus, Wallflower, Primrose, and crimson Polyanthus in flower in my little town garden."

— UNITED HORTICULTURAL BENEFIT AND PROVIDENT SOCIETY.—The annual meeting of this Society will take place at the Caledonian Hotel on Monday, March 9th, at 8 P.M. Mr. Joseph Cheal has kindly consented to preside.

— CALIFORNIAN LEMONS.—The Lemon growers of Southern California think that the fertility of the soil of that State and its adaptability to the production of Citrus fruits will enable them to compete with the product of Southern Europe in spite of the low price of labour there and the small cost of freight from Mediterranean ports. It is not expected in Lemon-producing districts of Europe that a tree will fruit before the sixth or seventh year, and it will do well if it yields three boxes of fruit the tenth year. In California a Lemon tree is expected to pay expenses the third year, and it should yield from five to ten boxes of fruit in the sixth year, while it is not an exceptional occurrence for trees ten years from planting to produce twenty-five or thirty boxes of fruit.

— VIOLET PERFUME.—This is now produced by chemical means, and the result quite supersedes and surpasses in quality, persistency, and similarity the flower itself. This latest discovery in chemistry has been made by two Germans in Leipzig, and the importance of it may be measured by the fact that many thousands of pounds sterling have been offered for the patent. Already this substance has been sold at a considerable reduction upon the cost of perfume made from real Violets, and so intense is the odour in its concentration that the manufacturers sell only 10 per cent. solutions of it. This 10 per cent. solution has to be again diluted a hundredfold before it is fit for sale to the public. The perfume of Violets is not, says a contemporary, the only instance in which chemical science as applied to perfumery has triumphed, and though some of the other chemically made perfumes are not so remarkable in their similitude to those actually extracted from flowers, they are of sufficient importance to greatly limit the use of flowers they imitate.

— BIRMINGHAM GARDENERS' MUTUAL IMPROVEMENT ASSOCIATION.—The first meeting of the spring session was held on the 3rd ult., at the Athletic Institute, John Bright Street, Mr. W. B. Latham presiding, when the President (Mr. A. W. Wills, J.P., F.C.S.) entertained the members present with a most interesting dissertation, chiefly on some remarkable trees and plants that presented themselves to his notice when on a visit to Ceylon, Burmah, and the Himalayas some few years ago. The "chat," as Mr. Wills affected to designate it, was illustrated by a numerous display of enlarged photographic views of some of the more remarkable specimens of such as Palms, Tree Ferns, and other giants of the vegetable kingdom. Reference was made to the wonderful plantations of medicinal plants, comprising 3000 species, cultivated by Mr. Hanbury in the Riviera, which Mr. Wills visited when on the voyage. The Tea plantations of Ceylon were described, and the wonderful scenery of Candia was especially dilated upon, whilst the gigantic denizens of the forests and gardens of the three countries named included such as, for instance, the gigantic Banyan tree (*Ficus indica*), Poinsettias 10 and 12 feet high, the Travellers' Tree (*Napoleonias imperialis*), Bougainvilleas, the Screw Pine (*Pandanus*), the Gum Tree (*Eucalyptus*), the attractive Calliandra brevipes with its brilliant pink coloured Mimosa-like flowers, and most magnificent of all the resplendent *Amherstia nobilis* was referred to in ecstatic terms as a sight never to be forgotten by reason of its garniture of rich vermilion and orange-coloured inflorescence as seen upon specimens from 40 to 50 feet in height—"truly the cream of the Indian Flora," notwithstanding the ephemeral nature of its flowers. The almost innumerable uses to which the Giant Bamboos are laid under contribution by the natives of India were detailed at length, and including the large groves of Indianrubber Trees (*Ficus elastica*). Reference was made to a few species of Orchids; and of fruits, the Jack-fruit—the produce of the *Artocarpus integrifolia*—an exceedingly disagreeable scented commodity, was humorously described as one of the vilest compoundings of scents possible to conceive, and diametrically opposed to the Durian fruit (*Durio zibethinus*), said to be one of the most delicious products of Nature. An object of much interest was a scimitar-shaped seed pod, about 16 inches long, of *Poinciana regia*, a native of Madagascar, and which the natives irreverently dub the "Woman's Tongue." A hearty vote of thanks was accorded to Mr. Wills for his interesting discourse.—W. G.



NOTES ON DENDROBIUMS.

As spring advances these beautiful and useful Orchids come more prominently into notice, and as the charming blossoms of the different species unfold it is not difficult to assign a reason for their popularity. During the dark winter and late autumn days the exquisitely tinted flowers of *D. phalaenopsis* have been delighting our eyes, not the least of its charms being the jaunty manner in which the racemes are carried, each flower showing its face to the observer so to speak. Now that these are getting past there is the richly marked *D. crassinode*, the chaste-looking *D. Wardianum*, and our old friend *D. nobile*. These in their different varieties are quite sufficient to make a very interesting and beautiful display, but they by no means exhaust the list of species in flower.

D. Pierardi and *D. Devonianum* are two very elegant and free-flowering kinds, not unlike in habit, but quite distinct in flower. These both produce long cylindrical pseudo-bulbs, or stems frequently over a yard in length, and these, if well ripened, flower in bunches of two or three nearly the whole way down. No one can see such plants as these without being struck with their beauty, while the smaller blossoms of *D. aureum* and similar kinds have a certain elegance and grace not possessed by many larger and more gorgeously coloured Orchids. The black-haired *D. infundibulum*, with its pure white flowers and dense yellow crest, its near relation *Jamesianum*, and one or two others, are of a different style of beauty, and this is maintained over a long period. They find many admirers, and are amongst the most useful of Orchids for cutting.

The number of artificially raised hybrids again make quite a section of the genus, many of them very rare and expensive of course, but others—and fortunately some of the most beautiful—cheap enough to be within the reach of all who aspire to a collection of Orchids. *D. nobile* has perhaps oftener than any other kind been used as a parent, and it has in most cases transmitted its excellent constitution to its progeny. The hybrids then, such as the now well-known *D. Ainsworthi*, are easily grown and propagated; in fact I think I am right in saying that they are even more robust than *D. nobile* itself.

Among the evergreen kinds there are not many in flower as yet, the pretty little *D. aggregatum* being the only one. This deserves to be more generally grown than is the case at present, for though the blossoms are small the clear yellow of the sepals and deep orange lip are quite distinct from anything else now flowering. There are signs, though, in the swelling nodes of *D. densiflorum*, *D. thyrsiflorum*, *D. chrysotoxum*, *D. suavisimum*, and others that their flowering season is not far distant, and in this connection there is but one cause for regret, and that is their somewhat evanescent character. While they last, however, they are truly beautiful, and from their distinct character are especially useful for grouping in the flowering house or conservatory with other Orchids.

The culture of the great majority of Dendrobiums is of the easiest kind, but a few of the more salient points in it may perhaps be touched on briefly with advantage. As a rule they like tropical treatment while growing, but the heat required by *D. phalaenopsis* or *D. Wardianum* is rather more than the evergreen kind like. None of the latter take long to grow, a plant say of *D. densiflorum* making a complete set of new growths in about ten weeks at the most, and frequently under the two months. If these are placed in the Cattleya house then there is ample time for them, and the growths will be finer and more firm than they would in the East Indian house. A few weeks' exposure to the open air or in a sunny frame is a great help to them, keeping them free of insects and giving the pseudo-bulbs that hardened ripened appearance that all experienced growers like to see. They must, however, be housed before frost sets in, and if standing quite exposed, before the heavy autumnal rains. They may be wintered either in the Cattleya house or in any structure kept up to about 50°, providing the atmosphere is not too dry.

The long-bulbed deciduous kinds, on the other hand, can hardly be kept too warm while growing, and they like a brisk temperature with abundance of moisture, and towards the end of the summer, particularly, almost full exposure to sun. These will not, as a rule,

have finished growing in time to be placed outside, but any plants that have done so may be thus treated with decided advantage. Others we place in the full sun on the front stage of a vinery, on a shelf in the Peach house, or some similar position, the aim being to give all the sun and air possible as the leaves fall, and so harden and consolidate the newly formed pseudo-bulb.

In this way we lay the foundation for a plentiful display of flower in spring, badly ripened bulbs never producing anything like a full complement, or bringing even these to perfection. Good peat fibre and sphagnum form the basis of the compost for most of the species, using it in rough or fine condition, according to the size of the pot or basket. As a general rule it will be found, too, that the larger roots a plant has the rougher the compost must be, while the smaller twining roots like it somewhat closer in texture. —H. R. R.

D. LUTEOLUM.

FLOWERING as it does at this season of the year this is one of the most useful Orchids we have, and it is besides of the easiest cultivation. During the months of January and February flowers, though fairly numerous, are none too abundant, and the bright yellow inflorescence of *D. luteolum* (fig. 21) is certain to meet with general approbation, especially when it is recognised that the flowers last for a considerable time in good condition. The plant requires a warm temperature, from 55° to 60° being suitable during the winter months. The flowers, as will be seen by referring to the engraving, are produced in short racemes on an erect spike, and are of a pleasing soft primrose tint. It is a species with which all amateur Orchid growers should become acquainted.

KENTISH ORCHIDS.

In the "Kent Magazine," a new quarterly issued by Mr. Neville Beeman, and devoted to county matters, an interesting article appears from the pen of the Rev. C. H. Fielding on Kentish Orchids. In the course of it he says:—The Lizard Orchis is probably confined to the part of Kent which lies between Grayford, Greenhithe, and Greenstreet Green. I saw one from Greenhithe in 1879, and another from the same place in 1883; my father had two from Dartford in 1850. The Latin name for this Orchid is *Orchis hircina*, because it smells most disagreeably like a goat. *Orchis pyramidalis*, so named from its cone of deep rose-coloured flowers, is scattered widely over the Chalk Hills. The dwarf Orchis (*Orchis ustulata*) stands about 3 inches high, and is found commonly at Hartlip, near Sittingbourne, but is a very local plant.

In the London catalogue *Orchis purpurea* is given, but it is not mentioned by Withering, Hooker, or Babington, while *Orchis fusca* (the Great Brown), the glory of our Chalk Hill Woods, is omitted; probably this Orchis is meant. The cap is brownish purple, the lip four-cleft, white spotted with pink edges; it is a fine plant. I found a specimen at Otford Mount in 1874, which was 4 feet 6 inches high, and on being dug up for examination because of its size, the knob was found to be above 2 inches in length. It is called in Kent the Old Woman's or Lady's Orchis, from the fancied resemblance of the flowers to a miniature figure dressed in the wide sleeves, apron, and large bonnet of a female at the close of the last century.

THE MILITARY AND MONKEY ORCHIS.

Orchis militaris (the Military Orchis) is very similar, and, indeed, there are many botanists that think them only a variety of the same flower. The difference is only in the shape of the basal lobes and helmet and the paler colour of the latter. In some parts of the Chalk Hills the Military Orchis appears, in others the *Fusca*, to be most abundant. The Monkey Orchis is perhaps extinct in Kent. My father found it near Dartford in 1848, but I have never found it nor heard of its being found since. *Orchis Simia* is the modern Latin name, but Babington calls it *Macra*, and Withering *Tephrosanthos*. *Orchis Morio*, the Meadow (or Fool's Orchis) is to be found in considerable quantities in damp meadows in different parts of the country; it varies wonderfully in colour, from pale salmon or even white to deep purple and black.

One of our commonest flowers in the woods in spring, and which with the wild Hyacinth and green leaves makes a pretty bouquet, is the early purple Orchis (*Orchis mascula*). This plant varies nearly as much as the previous one; it sometimes attains 18 inches, and has forty or fifty blooms, and has when the flowers are pale no dark spots on the leaf. Its smell in a room is very unpleasant. These flowers are the Long Purples of poor Ophelia's garland, and Shakespeare also calls them Dead Men's Fingers, a name by which they are known in this county, as also Ladies' Fingers or Red Butchers. Mr. Mault of Rochdale wrote a treatise on the best method of preserving the juice, from which both he and Dr. Withering considered salep was made.

THE MARSH ORCHIS.

Orchis latifolia (Marsh Orchis).—This plant loves damp meadows and copses, and has been found in various parts of Kent near the rivers. The Spotted Orchis (*Orchis maculata*) is common on banks and meadows all over the county, but like the last prefers

Orchis, which is known botanically by all three names, my father had from Tunbridge Wells in 1867. I saw one that was brought from the Chatham Woods in 1877.

The Butterfly Orchis (*Habenaria bifolia*), a fine plant with yellowish white flowers and generally two broad leaves, is found in



FIG. 21.—DENDROBIUM LUTEOLUM.

a damp soil. *Orchis incarnata* (the Crimson Orchis) has also been discovered. The Gadfly Orchis (*Gymnadenia* or *Orchis Conopsea*), known in Kent as Longtails from the length of its spur, has an aromatic scent, hence it is known as the Sweet-scented Orchis; it is common on the chalk downs throughout Kent. *Gymnadenia albida*, *Orchis albida*, *Habenaria viridis*, or the greenish white

many parts of the county. *Habenaria chlorantha*, the great Butterfly Orchis, has also been discovered in many places, and though I have never been fortunate enough to find it, friends have also discovered *Habenaria* or *Orchis viridis*. The Frog Orchis (*Herminium monorchis*), or the Musk Orchis, so named from its scent, is found in many places along the chalk downs. The flowers

are greenish yellow and fragrant. Langhorne, in his "Bee Flower," praises the Bee Orchis (*Ophrys apifera*), and mentions it as common on Beechborough Hill, near Folkestone, but it is found on dry chalk or sandy soil in many parts of the county. Many other varieties are also described, and the lover of the Orchid will find much valuable information in the article.

ATTRACTIVE APPLES.

"ON the occasion of the first Apple Congress at Chiswick, selections of varieties were made from the immense numbers exhibited, and published in the *Journal of Horticulture*. Can a copy of the issue containing those selections be supplied, and failing this, can the lists be republished? They would be interesting to many before the planting season is over." Thus writes a "Planter," and as a copy of the number referred to cannot be supplied, we comply with the alternative proposition. The following are the lists in question:—

LARGEST AND MOST HANDSOME APPLES.

Two of the largest specimens in the Exhibition are of Gloria Mundi, one in the Middlesex collection, which is nearly 14 inches in circumference, and weighed when cut 1 lb. 2 ozs.; the other is in the Sawbridge-worth collection under the name of Belle Dubois, and is very similar in size, but not quite so deep. Some fine examples of Lord Suffield also equal the dimensions of the first named, Alfriston coming very near, and perhaps in several cases exceeding it in weight, while Loddington is equally notable in a number of collections. The following include all the large and handsome Apples most numerous represented:—Annie Elizabeth, Bedfordshire Foundling, Betty Geeson, Blenheim Pippin, Catshead, Cellini, Claygate Pearmain, Cox's Pomona, Dumelow's Seedling, Dutch Codlin, Ecklinville, Emperor Alexander, Gloria Mundi (Belle Dubois), Golden Noble, Golden Spire, Gravenstein, Grenadier, Hanwell Souring, Harvey Apple (shown as Dr. Harvey), Hollandbury, Irish Giant, Kentish Fillbasket, Keswick Codlin, Lady Henniker, Landsberger Reinette, Lane's Prince Albert, Lewis's Incomparable, Lord Derby, Lord Grosvenor, Lord Suffield, Manx Codlin, Peasgood's Nonesuch, Queen Caroline, Reinette de Canada, Round Winter Nonesuch, Royal Russet, Scarlet Admirable, Shepherd's Fame, Stirling Castle, Tower of Glamis, Waltham Abbey Seedling, Warner's King, Washington, and Winter Hawthornden. Two very handsome Apples may be added to these, one a new variety that is represented well in a few collections—namely, The Queen, which is particularly good in Messrs. Saltmarsh's and Messrs. Bunyard's stands. The other is Grand Duke Constantine, which we only observed in Messrs. R. Smith's contribution. It is not, however, a new variety, though a very beautiful one, being of great size and finely streaked with rich crimson. It is of Russian origin, but does not appear to be much grown in England, though it is well worthy of attention.

THE RICHEST-COLOURED APPLES.

In no quality is there so great a range of variation as in the colour of the Apples shown, of course taking them generally. The southern exhibits are of the richest tints; but amongst these, samples of the same variety from one county, and even from neighbouring gardens, differ greatly in brightness. Climate and latitude undoubtedly exert the chief effect, but that much is due to soil is observable in many instances. A striking example of this is included in a collection from Bedford, the variety Manx Codlin being shown of a uniform yellow tint from a standard tree on a clay soil, but the same variety from a gravel soil has a deep red side, the colour also suffusing the other portion of the Apple. The Kentish Apples are supreme in colour, and though several other counties equal these exhibits in size none contains so many finely tinted samples.

The following are the leading coloured varieties, a few being local:—Algarkirk, American Mother, Calville de Dantzig, Colonel Vaughan, Cornish Aromatic, Cox's Pomona, Countess Howe, Court Pendu Plat, Cowarne Red, Devonshire Quarrenden, Emperor Alexander, Fearn's Pippin, Forge, Fameuse, Herefordshire Beefing, Hollandbury, Honey-moon, Imperial, King of the Pippins, Kingston Black, Lord Lennox, Mabbot's Pearmain, Maiden Apple, Margarette Reinette, Marriage Maker, Mignonne Rouge, Nanny Apple, Norfolk Beefing, Premier, Prince's Pippin, Pym Square, Red Autumn Calville, Red Astrachan, Red Cadbury, Rasenhäger (Sweden), Red Joanetting, Scarlet Admirable, Scarlet Pearmain, Soldier, Swedish Reinette, Sweet Kingston, Tom Putt, Trumpington, Winter Queening, Wilson's Prolific, Winter Reinette, Worcester Pearmain, and Herefordshire Beefing.

STREAKED APPLES.

Though several of these are included in the two preceding lists they may be enumerated together, as they form what might be termed a distinct popular type, and are very attractive:—Beauty of Kent, Burford Red, Citron Apple, Clifley Seedling, Cowen's Victoria, Devonshire Nine Square, Devonshire Queen, Fameuse, Flower of Kent, Hall Door, Hoary Morning, Jefferson, Margil, Monmouthshire Beauty, Nanny Apple, Pomme de Nieve, Pomroy, Red Rawlings, Redstreak, Ronald's Royal Pearmain, Striped Beefing, Sam's Crab, Sheep's Nose, The Queen, and Webster's Harvest Festival.

[If any of our readers think other varieties notable for their size or beauty should be added, as suitable for commercial purposes or exhibition, they may send us their names for publication.]



THE LEEDS PAXTON SOCIETY.

THIS Society will hold its eighth annual Chrysanthemum show on Tuesday and Wednesday, 10th and 11th of November next. The Hon. Secretary is James Campbell, The Gardens, Methley Park, Leeds, from whom all particulars may be had.

CHRYSANTHEMUM GROWING.—A CHAT WITH BEGINNERS.

(Continued from page 116.)

POTTING.

WITH regard to the number of shifts required for Chrysanthemums, it is somewhat a matter of expediency. If possible it is best to give them four shifts in all—viz. (1) from the cutting pot into 3-inch, thence (2) into 4½-inch, thence (3) into 6-inch, and lastly into the flowering pots, which need not be larger than 10 inches. Where any number under 100 are grown this may be practicable, but where there is a large collection, pressure of other work may necessitate the third shift (from 4½-inch into 6-inch) being omitted, the plants being shifted straight into the flowering pots. The advantage of the additional shift is, of course, that the final potting is thereby delayed three weeks or a month, and does away with the necessity for using stimulants early in the summer. In any case it is well to delay shifting the plants until they absolutely need it. On the other hand it is equally important that they should not become root-bound. It is best to pot a few occasionally, and not the whole at one time, whether they need it or not. Chrysanthemums are variable in habit and require variety in treatment. With regard to the compost for final potting, it is not my intention to give a hard and fast list of ingredients. Probably no two growers use them in the same proportion, or even possess the same materials. The truth is that any good compost, made fairly open with sand and wood ashes or charcoal, will serve. That it should be rich goes without saying. Save in the case of a few weak varieties, such as Mrs. Alpheus Hardy, the Chrysanthemum is a gross feeder. A little chemical manure is a good thing in the soil, but care should be taken not to overdo it. The soil should be well mixed, and allowed to lie for at least a month before using. I always make it a practice to ram the soil as tightly as possible. By this means the height of the plant is, I am sure, shortened by at least a foot. They do not grow so rapidly to begin with, but the benefit is seen in August.

FEEDING.

The "feeding" is a very important process indeed, and a rock upon which many a beginner has come to grief. The novice goes through three stages in this respect. The first season he feeds too strongly; the second, being rendered over-cautious by the last year's experience, he feeds too sparingly and starves his plants; then, after many disappointments perhaps, he arrives at the happy medium and is able to tell just what the plants require at any time by their appearance. It is best to begin with simple soot water, the soot being placed in a coarse bag and allowed to soak in the water used. All manures should be treated in this manner in order to prevent sediment forming on the surface of the soil and thus choking the tiny air passages to the roots. The plants will begin to require some slight stimulant of this kind about a month or six weeks after their final potting, when the soil has become full of roots. This soot water should be given two or three times a week, then about the end of July a little animal manure may be added. It is well to give clear water occasionally right through the following month, as it sweetens the soil. By the second week in August the pots should be full of roots and ready to bear a maximum amount of stimulants. An occasional application of sulphate of ammonia if the weather is hot and fine will do good. This chemical may be used in the proportion of a good handful to 60 gallons of water, or about 1 oz. to 3 gallons. It should not be given until the pots are full of roots and must never on any account be sprinkled on the surface of the soil, as the top roots will in this way be entirely destroyed.

Nitrate of soda is an even more powerful chemical, and unless used with extreme care will do great mischief. The novice will be wise to avoid it altogether. Chrysanthemums like as much variety as possible in manures, therefore it is well to vary both natural and chemical stimulants. Every grower has his particular fancy in this respect, but the truth is that, as I have stated, Chrysanthemums like any kind of manure provided it be used judiciously. Some time in September I like to give the plants a "top-dressing" or extra supply of nutriment on the top of the old soil. After being treated in this manner the plants should have nothing but clear water for at least a week and then gradually be fed again. The material I used for "top-dressing" last year consisted of two-thirds sandy loam and one-third ichthemic guano, and I found the roots ran into it with great vigour when the plants were housed in October.

INSECT PESTS.

Of insect pests earwigs are perhaps the most troublesome. It is a good plan to give the ends of the lines or wires to which the plants are

fastened a sharp twitch every morning. By this means every plant is shaken and the earwigs dislodged, as the slightest movement shifts them. The black fly often causes much trouble. Tobacco powder dusted thickly over the shoots clears them of most insects, and a daily hosing overhead helps greatly in this respect, besides being most refreshing to the foliage itself. This hosing should not be done late in the day. In fact mid-day is the best time, no matter how strongly the sun may be shining on the plants. The foliage will come to no harm, and one can almost see the leaves drink in the moisture. The idea that any "scalding" will result is a most erroneous one. Besides its beneficial effect on the plants themselves this treatment is, as I have said, very effective in keeping the shoots free of insects. One more point and I have done.

DAMPING.

Many a splendid collection of plants has failed to fulfil its high promise through faulty or careless "finishing." The one great evil to be feared is of course what is known as "damping" or premature decay of the blooms. The causes are various. The first and most common one is the injudicious application of stimulants during September, and more especially after the plants are housed. This forces the sap up into the expanding blooms when there is no growth to absorb it, with fatal results. It is most harmful to use any chemical manure, such as sulphate of ammonia, after the buds show colour. Another cause of "damping" is bad atmospheric conditions. The effect is in this case produced from without, but the result is just as bad as in the first instance. It is, however, more easily remedied. During the night a dew condenses on the blooms, and in the early morning the petals will be found in something like a cold perspiration. This alone is not injurious, indeed it is rather beneficial than otherwise, as it freshens the blooms. The mischief is done if the sun is allowed to shine on them in this condition. They immediately "scald," tiny blisters are formed, invisible at first, but quickly resolving themselves into a number of specks like dust. Whenever this is seen on a large bloom it may as well be cut at once, for in twenty-four hours it will be worthless. Some varieties are peculiarly susceptible to this evil. Vivian Morel, Col. W. B. Smith, and William Seward, for instance. In order to prevent such calamities keep the water-pipes slightly warmed during the night, leaving the top ventilators of the house as wide open as the weather permits. In the morning, if it seems likely to be a bright day, throw open all the ventilators to their full extent, and turn on full heat until about nine o'clock, then turn it off altogether. By adopting this plan the air will be prevented from becoming stagnant, the condensation will not be so heavy, and in the morning all superfluous moisture about the house and on the flowers will have quite dried up by the time the sun has any power. During the first half of October, however, the blooms should be kept slightly shaded from the full glare in bright weather. Individual blooms may be protected by pieces of newspaper twisted in the form of a hood. Situation has much to do with keeping the blooms in good condition. Much more difficulty in this respect is experienced in low-lying grounds or near the sea than on high inland situations. The colours of the blooms are also much affected by this. Watering should be very carefully done at this stage. W. Seward and Col. W. B. Smith require but very little water when expanding their blooms, and strong manure at this period means certain ruin to them.

Some sorts—not necessarily the strongest—require much more water than others. W. H. Lincoln, Lady Selborne, Mrs. Nisbet, Thos. Dennis, and Lilian Russell, will take three times the amount of water that other not less vigorous sorts will; but that is a matter in which only experience is of use. Miss Dorothy Shea, Golden Wedding and W. Seward, require especial care in this respect.

There are, of course, many details of Chrysanthemum culture which I have omitted to deal with; but as I said at the commencement of this article, my object was not so much to write a formal description of Chrysanthemum growing as to interest those who have just commenced to "go in for Mums."—FRED. C. SMALE, *Torquay*.

THE CULTIVATION OF HEATH LAND.

BEING a gardener out of place, I have rented two acres of land to endeavour to get a living by growing fruit, flowers, and vegetables for market. The land was formerly a common with nothing but Heath, Furze, and coarse grasses growing on it. Before cultivating it an inch or more of the surface was pared off for fuel. The ground was then trenched about 18 inches deep, and about 3 inches of the surface put at the bottom. This top part consists of brown fibrous peat, full of Heath roots, with a good sprinkling of silver sand in it. The subsoil varies from yellow loam to black bog earth; underneath this is sand mixed with a little clay and gravel; in some places the under part is all pure silver sand, with only 2 or 3 inches of peaty soil on the surface. There are drains put in from 2 to 3 feet deep. The water in the wells is less than 3 feet from the surface now. There is a plantation of Scotch Firs on the south-east, and no other shelter; it is a sunny spot, but very bleak in the winter.

The ground is very poor, vegetables such as Seakale, French Beans, Lettuce, and Asparagus refuse to grow without manure. I should esteem it a great favour if any of the readers of the *Journal of Horticulture* who have had experience in the cultivation of peaty and boggy soils would say through the pages of the *Journal* what would be likely to suit the soil. I have commenced working up a stock of Violets, Lily of the Valley, Narcissi, Strawberries, and I thought of getting

some of the Irises that flourish in damp places. Would it be advisable? The ground has been under cultivation three years. I entered on it last spring.—J. A.

[We shall be glad if any of our readers can help an industrious man who is trying to help himself, by imparting the desired information.]

SPIRÆA CONFUSA.

THE above is the name of the plant of which "Journeyman" sends us a flowering spray. The plant is, as he observes, especially useful for early forcing, because the plants can be lifted from the open ground, and after suitable preparation they are placed in heat, and flower in a short time. The habit of this *Spiræa* is compact yet graceful, the slender



FIG. 22.—SPIRÆA CONFUSA.

branches being clothed with fresh green leaves, and terminate in neat heads of pure white flowers (fig. 22), which are produced very freely and last for a considerable time. *Spiræa confusa* is as easily grown as any other form of the genus. A good loamy soil suits it, and after forcing the plants should be encouraged to make a free growth, which must be well matured out of doors in a sunny position, as they will thus gradually acquire an earlier habit of flowering. If planted out they should be lifted early in the year, potted, and introduced to moderate heat, as if placed in a strong heat they are not so satisfactory.

ROYAL HORTICULTURAL SOCIETY.

DRILL HALL, FEBRUARY 11TH.

THE exhibition held at the Drill Hall on the above date was a magnificent one, in every way worthy of hearty commendation. Orchids were staged in great variety, large numbers, and of superb quality. The exhibits before the Floral Committee were also numerous, and generally of much merit, while the collections of handsome fruits shown reflected the highest credit on the growers. The difference between this show and the corresponding one during last year was remarkable, and proves what effects the weather has upon the quality and size of an exhibition.

FRUIT COMMITTEE.—Present: P. Crowley, Esq. (in the chair); with Rev. W. Wilks, and Messrs. T. F. Rivers, G. Bunyard, H. J. Pearson, J. H. Veitch, T. J. Saltmarsh, A. H. Pearson, G. W. Cummins, H. Balderson, G. Sage, G. Wythes, G. T. Miles, G. Woodward, W. Pope, J. Willard, T. Glen, J. A. Laing, F. Q. Lane, W. Bates, C. Herrin, R. Fife, A. Dean, and J. Wright.

As will be seen, there was a good attendance of members; there were also several highly meritorious collections of fruit, for which medals were granted. Several new Apples were also examined, but however serviceable to the growers, they were not considered sufficiently distinct from or superior to others in cultivation to merit special awards. The collections of fruits were first examined.

Lord Foley (gardener, Mr. Miller), Ruxley Lodge, Esher, sent thirty-seven dishes of Apples, a few Black Alicante Grapes and Nuts. Many of the fruits were shrivelled, and wrong names placed on some of the dishes (vote of thanks).

An excellent assortment of five dishes of Apples was also staged by Messrs. H. Lane & Son, Berkhamsted, including beautiful examples of Lane's Prince Albert, and other varieties (silver Knightian medal).

A. H. Smee, Esq. (gardener, Mr. G. W. Cummins), Carshalton, sent fifty-six varieties of Apples and six of Pears, clean and admirably kept, altogether a most creditable display (silver-gilt medal).

Messrs. J. Cheal & Sons, Crawley, arranged ninety dishes of Apples and Pears, a diversified and attractive display, many of the fruits of large size, some brilliantly coloured, and all in excellent condition (silver Knightian medal).

From the Royal Gardens, Windsor, came 100 dishes of Apples, many of large size and all clear and sound—an imposing and meritorious exhibit (silver-gilt medal).

Messrs. G. Bunyard & Son, Maidstone, arranged 100 dishes of dessert Apples—a remarkable display, nearly all the varieties now in season, and to continue for later use, being represented. In clearness and colour they left nothing to be desired—a notable assortment (silver-gilt medal).

Messrs. T. Rivers & Son, Sawbridgeworth, sent an admirable collection—not extensive in variety, but some of the fruits, especially Cox's Orange Pippin, were magnificent. Oranges were also included, for which Sawbridgeworth is famed (silver Knightian medal).

Mr. C. Herrin, Dropmore Gardens, sent twenty-six dishes of Apples—a small collection in comparison with some others, but the fruits of very great merit (silver Banksian medal).

Messrs. J. Laing & Sons, Forest Hill, arranged seventy-five dishes of Apples, the different varieties being admirably represented and in the best of condition (silver Knightian medal).

Among the fruits placed on the table for examination were the following:—From Mr. J. R. Stevens, Clayton Manor, Sevenoaks, fruiting plants of Stevens' Wonder Strawberry, also a box of ripe fruits (vote of thanks).

J. J. Morris, Esq., Allerton Priory, Liverpool (gardener, Mr. J. J. Craven), sent fruits of the Lancashire Pomeroy Apple, but no award was proposed for them.

J. R. San, Esq., Bernard Street, Russell Square, sent Apple Beauty Pippin. The fruits were of the Bess Pool type, but not so good, and therefore passed.

Mr. H. Balderson, Corner Hall, Hemel Hempstead, sent a dish of Apples named Scott's Prolific, a variety resembling Wadhurst Pippin, though not identical with it, and no award was made.

Mr. J. H. Sheppard, High Street, Bedford, sent Apple Clapham Beauty, small and not of high quality. Surpassed by many others in cultivation, and passed.

Mr. W. H. Divers sent from Belvoir Castle Dewdney's Seedling Apple somewhat resembling Hollandbury; also large conical fruits of Jenkinson's Seedling, very much resembling Bedfordshire Foundling, a fine looking Apple, but was passed.

Messrs. J. R. Pearson & Son, Chilwell, sent Apple Clifton Seedling, a showy Apple of good size, deeply flushed with crimson, and attractively streaked. No award was made. Mr. Pearson also brought a tin of the celebrated tropical fruit, the Mangosteen (very rich and luscious), and though some of the members thought the fruit had been over-praised, the tin was soon emptied. The sample was brought from the Malay Peninsula (vote of thanks).

Mr. O. Thomas sent from the Royal Gardens fruits of Frogmore Winter Cucumber, attractive, similar to Hedsor Prolific. No doubt a very useful Cucumber, but no award was made.

If those critics who seem to think the members of the Committee favour each other's products had been sitting "cheek by jowl," as one of them put it a short time ago, with the examiners at the table, he would have had an object lesson to the contrary on this occasion.

FLORAL COMMITTEE.—Present: W. Marshall, Esq. (in the chair); with the Rev. H. H. D'Ombra and Messrs. J. Fraser, O. Thomas, J. Laing, H. B. May, R. Dean, G. Nicholson, H. Herbst, J. W. Barr, R. Owen, E. Molyneux, J. H. Fitt, G. Stevens, J. F. McLeod, H. S. Leonard, J. Hudson, R. B. Lowe, C. J. Salter, R. Milligan Hogg, J. Fraser, J. D. Pawle, C. E. Pearson, W. Bain, C. Jefferies, J. T. Bennett Poë, C. E. Shea, E. Mawley, H. J. Jones, E. Beckett, H. Turner, G. Paul, C. T. Druery, and G. Gordon.

A beautiful collection of Camellias, consisting of plants in pots and cut blooms, came from Messrs. W. Paul & Son, Waltham Cross, causing a bright display. Conspicuous in the exhibit were Lady Hume's Blush, Fimbriata, The Duchess, Beauty of Waltham, Princess Maria Amelia d'Orleans, Belle Portuense, Exquisite, and Delicatissima (silver-gilt Flora medal). Mr. W. J. Godfrey, Exmouth, exhibited flowers of Callas devoniensis and The Godfrey. Mr. W. Bull, Chelsea, sent flowers of Chinese Primulas, large and diversified in variety.

From Mr. Chas. Turner, Slough, came a fine group of Cyclamens, the plants sturdy in habit, with numerous flowers on stout footstalks, together with fleshy marbled foliage, testified to the good culture to which the plants must have been subjected (silver Banksian medal). A large space of tabling was occupied by a magnificent group of Primulas staged by Mr. J. R. Box, Croydon. The plants looked the picture of health, the foliage being exceptionally green and substantial. Included in the exhibit were Marquis of Lorne, Cannell's Pink, Firefly, White Perfection, Princess May, Marchioness of Lorne, Intensity, and Pink

Queen (silver-gilt Banksian medal). Mr. H. B. May, Upper Edmonton, sent plants in flower of Tree Carnation Henry Gibbons.

A fine collection of Cyclamens was staged by Mr. John May, Twickenham, in which many remarkably fine flowers were noticed, while the colours were both pleasing and diversified (silver Flora medal). Messrs. Jas. Veitch & Sons, Chelsea, sent a group of pretty blue Primroses, from a strain raised by Mr. G. F. Wilson; the flowers vary in shade from light blue to almost deep purple, and are produced in large numbers on short and sturdy footstalks. The same firm also sent several hybrid Cinerarias, and plants of Hamamelis japonica (silver Banksian medal). Messrs. J. Peed & Sons, Norwood, sent a group of flower and foliage plants, consisting of Palms, Crotons, Dracaenas, Begonias, Cyclamens, Cyrtipediums, and Bertolonias in variety (silver Banksian medal).

Hardy spring flowers made their first appearance at this meeting, Mr. T. S. Warr, Tottenham, staging amongst others Narcissus Henry Irving, Galanthus Elwesi, Irises reticulata purpurea and alata alba, Chionodoxa sardensis, Scillas sibirica and bifolia, and Lachenalia aurea (bronze Banksian medal). Messrs. Barr & Son, Covent Garden, were also represented by Primula obconica grandiflora, Scilla bifolia, Chionodoxa Luciliae, Galanthus Elwesi Whittali, Narcissus minimus, Hellebores in variety, and Saxifraga Burseriana major (bronze Flora medal). Mr. J. Sim, The Temple, Drumthie, sent a specimen of Asparagus medeloides major.

From the Royal Botanic Gardens, Glasnevin, came several curious specimens, including flowers of Dombeya Wallichii. Mr. W. Hughes, gardener to E. H. Woodall, Esq., St. Nicholas House, Scarborough, sent a plant of Cyrtanthus parviflorus. Mr. Empson, gardener to Mrs. Wingfield, Amptill, exhibited a tastefully arranged group of Callas and double white Primulas, which made a pleasing effect.

Mr. W. Allen, gardener to Lord Suffield, Gunton Park, Norwich, sent a group of well-flowered plants of Lachenalia Nelsoni, which were very effective (silver Banksian medal). Messrs. Jas. Carter & Co., Holborn, sent a novelty in Primulas called Carter's Bouquet. Messrs. Paul & Son, Cheshunt, sent two boxes of cut Roses, which included W. A. Richardson, Banksian Yellow, Ducher, Niphetos, Céline Forestier, Anna Olivier, Duke of Edinburgh, Dr. Grill, Cleopatra, and Jules Finger. The same firm also sent plants of Paul's snow-white Mezereum (silver Banksian medal). Messrs. J. Laing & Sons, Forest Hill, sent a pleasing group of flower and foliage plants, which included Crotons, Palms, Dracaenas, Cyclamen, Paeonies, Cyrtipediums, Lycastes, and others (silver Flora medal).

From Messrs. H. Cannell & Sons, Swanley, came a few fine Primulas, including Glowworm, Eynsford Yellow, Lady in White, White Rock, Victory, Pink Queen, and Defiance (bronze Flora medal). Fine specimens of Violet Maria Louise came from the Royal Gardens, Windsor.

ORCHID COMMITTEE.—Present: H. J. Veitch, Esq. (in the chair); with Messrs. Jas. O'Brien, De B. Crawshay, J. G. Fowler, J. Gabriel, Chas. Pilcher, Thos. Peed, F. Sander, T. W. Bond, E. Hill, Jas. Douglas, F. Mason, W. Cobb, E. Handley, T. B. Haywood, S. Courtauld, H. J. Chapman, H. M. Pollett, H. Ballantine, E. Ashworth, M. H. Protheroe, and F. C. Jacomb.

Messrs. B. S. Williams & Son, Upper Holloway, staged a fine collection of Cyrtipediums, in which villosum, Williamsianum, vexillarium, and several others were noticeable. The plants were in splendid health (silver Banksian medal). Several pans of Coelogyne cristata came from J. Gabriel, Esq., Streatham. The plants were carrying large numbers of fine flowers (silver Banksian medal). Mr. W. H. White, grower to Sir Trevor Lawrence, Bart., Burford Lodge, Dorking, exhibited a few Orchids, conspicuous rather for quality than quantity. Cyrtipedium villosum aureum, Masdevallia Henrietta, M. Fraseri, M. melanopus, Pleurothallis Roezli, Dendrobium pallens, D. Domini, and D. burfordiense were comprised in this exhibit (silver Banksian medal).

Cyrtipediums James Buckingham, Annie Ayling, and Mrs. F. Hardy, with Dendrobium speciosum, were shown by A. J. Hollington, Esq., Enfield. Mr. H. J. Chapman, gardener to R. J. Measures, Esq., Cambridge Lodge, Camberwell, exhibited a charming group of Orchids. Particularly noticeable were Cyrtipedium Pegasus, C. villosum, C. v. aureum, C. calypso superbum, C. nitens, C. Boxalli atratum, C. Politum, Cattleya Trianae Combesiana, Dendrobium Dominicanum, and others (silver Banksian medal).

Very beautiful indeed were the Orchids staged by Messrs. F. Sander and Co., St. Albans. Dendrobiums Sybil, superbiens, Leechianum, Findleyanum, and Curtisi, with Phaius Cooksoni, Phaius-Calanthe Arnoldiae, Laelia anceps Sanderiana, L. a. Schröderae, Lycaste Skinneri alba, Cyrtipedium Godseffianum, C. Rothachildianum were all seen in splendid form (silver Flora medal). A few Cyrtipediums, including Jamesonianum, Exul superbum anamense, Bragium, amabilis, and Calypso superbum came from Mr. Johnson, gardener to Thos. Statter, Esq., Stand Hall, Manchester. Cut Orchids in charming variety were staged by Mr. H. Holbrook, gardener to E. Ashworth, Esq., Wilmslow. The same exhibitor also staged Cyrtipedium Leysonianum and Dendrobium Wardiano-japonicum (silver Banksian medal). Dendrobium Wardiano album and other Orchids came from A. H. Milton, Esq., Castleton House, Clifton, Bristol; Major Mason, Warwick, staging Cattleya Trianae Adonis and C. T. Stella.

Only three spikes of Odontoglossums were staged by Mr. Ballantine, gardener to Baron Schröder, The Dell, Egham, but they were of superb quality. The names were O. crispum nobilius, O. Coradinei, and O. Andersonianum (silver Flora medal). The Right Hon. Joseph

Chamberlain staged three! Orchids also—namely, *Masdevallia* Chamberlainiana, *Odontoglossum aspersum*, and *Dendrobium Andromeda*.

Quality pervaded the Orchids of Messrs. J. Veitch & Sons, Chelsea, the firm staging also in rather larger numbers than usual. The *Dendrobiums* were grand, and included *Cordelia*, *Findleyanum*, *euosmum* roseum, *Cordelia flavescens*, *Cassiope*, *Wardiano-japonicum*. *Cypripediums* were also conspicuous. There were *Germinyanum*, *Euryades*, *Godseffianum*, T. B. Haywood, *Lathomianum superbum* (magnificent), with *Cœlogynes*, *Cattleyas*, and a few others (silver Flora medal).

A small group of Orchids came from Messrs. H. Low & Co., Upper Clapton, and comprised, amongst others, *Phalænopsis*, *Cypripediums*, *Dendrobiums*, and others (silver Banksian medal). Messrs. Heath and Son, Cheltenham, staged *Cattleya Trianae Ernesti*, C. T. Diadem, *Phalænopsis Veitchiana*, and *Dendrobium Findleyanum giganteum*, all in highly creditable form.

CERTIFICATES AND AWARDS OF MERIT.

Cypripedium Jamesonianum (A. J. Hollington).—This a handsome form. The dorsal sepal is very broad, white veined, and flushed rose in colour. The petals are rose, suffused with whitish-green, and heavily spotted with brown. The pouch is intense maroon (award of merit).

Cyrtanthus parviflorus (E. H. Woodall).—The flowers of this plant are rich scarlet in colour, and carried on very long footstalks (award of merit).

Dendrobium pallens (W. H. White).—This Dendrobe is delicately beautiful. The flowers are of good size, the sepals and petals being white, tipped with bright rosy pink. The lip is also white, with the same shade at the tip as in the other organs, while the throat is pale canary yellow (award of merit).

Houlletia tigrina (E. Hill).—The sepals of this Orchid are a very dull rose in colour, while the petals are brown, barred with yellowish green. The lip is creamy white, spotted and blotched maroon, and having a very faint yellow patch (award of merit).

Leucium carpaticum (T. S. Ware).—This is a very handsome Snowflake with pure green-tipped petals (first class certificate).

Masdevallia Henrietta (W. H. White).—Resulting from a cross between *M. Ignea* and *M. Shuttleworthi* this is very striking. The flowers are rose, with brown markings and lovely yellow tails (award of merit).

ANNUAL GENERAL MEETING.

A LARGE gathering of members of the Society attended the annual general meeting held at 117, Victoria Street, several of them having to stand throughout the proceedings. Sir Trevor Lawrence, Bart., President of the Society, occupied the chair, and before commencing the business of the meeting moved that an address of sympathy be accorded to Her Majesty the Queen, patroness of the Society, on account of her recent bereavement.

The preliminary business of the meeting was then disposed of, which included a vote of thanks to the retiring members of the Council, Sir J. E. Moss, with Messrs. Owen Thomas and Henry Williams. The Chairman then moved that the report and balance-sheet appended be adopted.

In course of his remarks relative to the adoption of the report, Sir Trevor said he only intended touching briefly on a few points. The Council, he continued, had circulated a new code of judging rules, which it was considered would be of assistance to judges and exhibitors at horticultural shows. The code was not considered to be anything more than a beginning, and they quite expected it would be subject to criticism. They should also be glad to receive any suggestions that would result in the further improvement of the code.

With respect to the retirement of Mr. Barron, he was expressing the sentiments of the whole of the Council when he said that they all fully recognised his invaluable services, which had extended over a great number of years. During a disastrous period in the Society's history Mr. Barron's assistance and advice had been invaluable, and he was also authorised to say that Mr. Barron was fully satisfied with the terms of his retirement. Mr. Wright had been appointed superintendent at Chiswick Gardens; he had come there with an excellent reputation, and the Council thought it only fair that he should be allowed an entirely free hand, while they were anxious that the experiments should be carried on and Chiswick be made a model horticultural establishment.

The Society's shows had been very successful, the only drawback being that Her Royal Highness the Princess of Wales was unable to be present at the opening of the Temple Show, while they were similarly disappointed at the Crystal Palace Fruit Show in the unavoidable absence of the late Lord Mayor. The periodical meetings held at the Drill Hall had been well supported, and the attendance larger. The vegetable show was a disappointment, and he regretted to say that vegetables, from an exhibition point of view, did not receive the attention they deserved. Sir Trevor also spoke highly of the value of the services of the Scientific Committee, and the character and punctuality of the Journal, which still continued to give great satisfaction.

It was satisfactory to note that seventy-two provincial societies had been affiliated, and the number was still increasing. Some suggestions had been made, continued Sir Trevor, to make the Society still more provincial, but it was a step that required much consideration. The disastrous experience at Liverpool assured them that provincial shows did not pay; the Council, however, had made arrangements to send

deputations to the exhibitions to be held at Chester and York during the forthcoming summer. It had been decided to restrict the deputations to these two shows, for the present at any rate.

He would conclude by referring to the criticism to which the Council had recently been subjected, adding that he was not sorry that such had been the case, as it showed the members were taking a lively interest in their Society. The Council did not claim that it was not liable to make mistakes, but figures proved that it had always worked for the welfare of the Society, as previous to 1889 each year there had been a deficiency, whereas since that date there has annually been a balance in hand, while the number of members and the circulation of the Journal had increased correspondingly. He thought this was sufficient to prove the Council had done everything for the good of the Society, and he hoped to give a satisfactory answer to any questions that might be asked prior to moving the adoption of the report.

Mr. Parker said, in regard to the Journal, the end of the current year would complete twenty volumes, and he hoped they would publish a complete index of the whole, as he felt sure it would be very useful, and save much trouble when referring to the information contained therein.

Mr. A. H. Smee moved an amendment to the report, criticising the conduct of the Council, which he considered was not consistent with the Society's charter. In regard to its treatment of Mr. Barron, he wished to draw attention to the question of his retiring pension. He considered it very desirable that such a pension be granted, but he should like to remind them that the Society was a voluntary one, and also to ask whether the pension was absolute, and if it could be sold in the open market. He wished to know whether if, by any accident, the Society should fail, the Council would be liable to make up that pension. Mr. Smee further criticised the conduct of the Council respecting the election of Mr. Barron as an honorary life member of the Society, and concluded by moving that a Committee be appointed to investigate the proceedings of the Council, and make a report on the same. Mr. Smee assured them that he had raised the question in the interest of the Society, and had prior to doing so obtained the best possible legal advice on the subject. Mr. Peter Barr seconded the amendment, but on being put to the meeting it was thrown out by an overwhelming majority.

Mr. P. Barr put several questions to the Chairman, the principal of which were:—With reference to the item of salaries and wages, how was it that it was not made out in detail? Why was not the Secretary's salary set forth separately? What was the total amount that had been paid to him since he has been in office? What were the Secretary's official hours? Several other questions of minor importance were asked, and Sir Trevor Lawrence replied to them in rotation, and in respect to the Secretary's official hours he could only say that Mr. Wilks was there when he was wanted, and he felt ashamed at being called on to answer such a question respecting a gentleman who by his untiring energy had done so much for the Society.

Baron Schröder said he had not come there with any intention of speaking, but since he had heard the attack on Mr. Wilks he felt he could not sit still. That gentleman had joined the Council when the Society was in a bad way—in fact, when it was practically ruined; and he knew of no man who had filled his office better. In short, the Secretary was a man such as he (the Baron) had seldom met with in the course of a long life. After the very painful scene that had taken place he should propose a vote of confidence to the President, Secretary, and officers of the Society, and ask Mr. H. J. Veitch to second it.

Mr. Veitch, in seconding the vote, said he had not sat on the Council of the Society so long as Baron Schröder, but he had sat long enough to know the invaluable service which Mr. Wilks had rendered to the Society. He knew how the services of Mr. Wilks had been obtained during the disastrous days at Kensington, and that he had assisted greatly in bringing about the prosperous state of affairs it now enjoyed. He was sorry indeed to hear the question asked referring to his official hours. He was a business man himself, and knew Mr. Wilks to be a man of superior business habits, always prepared to give full information on any question that might be put to him; in fact, it was seldom they found a clergyman with such capabilities for business as Mr. Wilks, and he should have great pleasure in seconding the proposal, which was carried unanimously.

Mr. Wilks in reply said it was as painful to him to have to listen to the kind remarks that had been made about him as it was to hear the questions asked by Mr. Barr. Baron Schröder, Sir Trevor Lawrence, and others knew the work he had done for the Society in assisting to bring about its present-day success. He did not mind the criticism, as it was a healthy sign and did good, and he hoped the Society would in the future progress as it had done since he had been connected with it.

Sir Trevor Lawrence here remarked that it was only fair to say that Mr. Wilks served for a considerable time without any remuneration whatever, and it was not until force of circumstances rendered it necessary that he could be induced to accept a salary.

Mr. Marshall asked what was the nature of the Council's proposals with reference to Chiswick Gardens, and in reply the Chairman said that for the time being it was decided that the new superintendent should have a free hand, as it would not be fair to hamper him with any alterations until he had become fully versed with the duties of his office.

Mr. R. Dean remarked that he noticed there was no floral meeting arranged to take place from the middle of September to the middle of October, and as that was a time when many flowers were in season, he hoped they would be able to make arrangements for the Floral Committee to meet at the Crystal Palace Fruit Show. The Chairman assured Mr. Dean that the question should receive consideration. As no other business was forthcoming, a hearty vote of thanks to the Chairman brought the proceedings to a close.

REPORT OF THE COUNCIL FOR THE YEAR 1895-96.

The most important work of the Society during the past year, and that which will have the greatest effect on the gardening of the future, is probably the recent publication of the rules and suggestions for judges and schedule makers.

In response to a widely expressed wish the Council in the autumn of 1894 appointed a Committee to draw up such a code of rules, and it is not saying too much to affirm that no Committee has (of late years at least) worked harder or devoted more time to the Society's interests. The most hearty thanks of the Society are due to the members of this Committee.

Although actual experience and practice may at first call for divers modifications and additions, yet the result of their labour, as now set forth, is one which the Fellows of the Society may well regard with satisfaction, and which will, it is hoped, form the foundation of a code by which all judging at shows will be conducted in years not far distant. The code is published at the Society's office, 117, Victoria Street, S.W., post free, 1s. 1d.

The year has also been marked by the retirement of Mr. Barron from his long tenure of office as Superintendent of the Society's Gardens at Chiswick—a tenure of thirty years as Superintendent and eight years as Foreman—reaching from the year 1857 to the present time. During those thirty-eight years Mr. Barron has devoted his best energies and the most valuable years of his life to the service of the Society, and after due consideration the Council have thought it right to make him a retiring allowance of two-thirds of his salary, and have conferred upon him an Honorary Life Fellowship in the Society.

The Council desire on their own behalf, and that of the Fellows generally, to tender to Mr. Barron their fullest acknowledgment of his faithful and valuable services during the many years of his work for the Society, accompanied with the hope that he may long enjoy a well-earned retirement.

In round numbers £1765 has been expended at Chiswick this year on the general work, and repairs and keeping up of the Gardens. The receipts from the Gardens by sale of surplus produce amount to £367, making the net cost of the Gardens £1398.

Mr. S. T. Wright, hitherto of Glewston Court Gardens, Ross, has been appointed Superintendent.

The Council have thought that for the first year at least it would be best for Mr. Wright to have a perfectly free hand at Chiswick, subject to the control of the Council alone. Whilst therefore expressing their best thanks to the members of the late Chiswick Board, they have decided not to propose the re-appointment of that body for the ensuing year.

Certain alterations which they hope to be able to introduce into the system at Chiswick will develop themselves as time goes on. It would not be wise to put forth an ambitious programme until Mr. Wright shall at least have had time to become intimately acquainted with the Garden, its capabilities, and its contents. All practical gardeners will at once perceive the necessity of allowing 1896 to be a year of what it is hoped may prove unpretentious advance and improvement.

Eighteen fruit and floral meetings have been held in the Drill Hall, James Street, Victoria Street, Westminster, besides the more extended shows at the Temple Gardens on May 21st, 22nd and 23rd; at Chiswick Gardens on September 10th, and at the Crystal Palace on September 26th, 27th and 28th; and lectures have been delivered at fifteen of the meetings, exclusive of those given at the conferences. The number of awards has been as follows:—On the recommendation of the Floral Committee, 22 first-class certificates against 71 in 1894, 174 awards of merit against 225, and no botanical certificates against 3. On the recommendation of the Orchid Committee, 48 first-class certificates against 68 last year, 98 awards of merit against 134, 72 botanical certificates against 21. On the recommendation of the Fruit and Vegetable Committee, 8 first-class certificates against 15, and 44 awards of merit against 12 last year.

For the simplification of office arrangements, and for economy in postage expense, it has been thought well in future to make the Society's year of work begin and end (as far as allowed by the Charter) with the annual meeting in February. For this purpose all Fellows' tickets for 1896 will be available for the January meeting of 1897. The Committees recently appointed will also continue in office until the same date.

At the request of several amateur growers a Narcissus Committee has been re-established.

The Council have also thought it well to make an attempt to encourage individual research and effort in obtaining new plants either by importation or hybridisation, and to this end are offering the Society's medals as prizes, particulars of which will be found in the schedule arrangements, 1896.

The Council desire to draw the attention of all Fellows of the

Society to the more extended use which the Scientific Committee might be to them if they availed themselves more freely of their privileges in submitting instances of diseases of or injuries to plants, caused by insects or otherwise. The Scientific Committee is composed of gentlemen qualified to give the best advice on all such subjects, either in respect to the prevention or cure of disease. The Committee is also glad to receive specimens of malformation or other subjects of horticultural or botanical interest.

The Council wish to express their thanks to the Director of the Royal Gardens, Kew, for allowing them to consult Mr. Massee, F.L.S., on the fungoid diseases, &c., brought before the Scientific Committee, and to that gentleman for his readiness in giving them the advantage of his knowledge and advice.

The Society's great show held (by the continued kindness of the Treasurer and Benchers) in the Inner Temple Gardens was as successful as ever, and it is a matter of satisfaction to the Council to find that this meeting is now universally acknowledged to be the leading Horticultural exhibition of this country. The best thanks of the Society are due to all who kindly brought their plants for exhibition, or otherwise contributed to the success of this show.

The exhibition of vegetables held in the Society's gardens at Chiswick on September 10th was hardly of such practical utility as the Council had anticipated. Wonderful specimens of cultivation were shown, but many of the exhibits were distinctly too large for table use, and the number of exhibitors was comparatively small. It is hoped that whenever another vegetable show may be held, this meeting may at least have taught us what to aim at and what to avoid.

The great show of British-grown fruit held by the Society at the Crystal Palace on September 26th, 27th, and 28th was of even greater dimensions and excellence as regards the fruit shown, and was attended by far larger numbers of visitors than that of last year. It is needless to enter into details, as full particulars will be found in volume xix., part 2 of the Journal recently issued.

As an object lesson in British fruit cultivation this annual show stands out unrivalled, and is of national importance. But its continuance year after year is a matter of the gravest concern to the Council, as it involves a large expenditure without hope of any return. Arrangements have been made with the Crystal Palace authorities for the Society to hold a similar show on October 1st, 2nd, and 3rd, 1896, but these arrangements are absolutely conditional on a sum of £100 being subscribed by April, 1896, to assist with the prize fund.

Messrs. H. J. Veitch, T. Francis Rivers, George Bunyard, Owen Thomas, Geo. Norman, J. Smith of Mentmore, Philip Crowley, John Wright, and the Rev. W. Wilks have been appointed a Committee to revise the schedule of prizes, and a circular letter inviting subscriptions has been issued, but as it is impossible to send it to all it is hoped that any who are willing to assist in the continuance of this show will send their subscriptions to the Secretary, 117, Victoria Street, S.W.

The Journal of the Society has been continued so as to enable Fellows at a distance to enter more fully into and reap the benefits of the study and work of those actively engaged at headquarters. Vol. xvii., parts 3 and 4, vol. xviii., and parts 1 and 2 of vol. xix. were issued during the year, and vol. xix., part 3, is now almost ready for issue.

An examination in the principles and practice of horticulture was held on May 1st concurrently in different parts of the United Kingdom, a centre being established wherever a magistrate, or clergyman, or schoolmaster, or other responsible person accustomed to examinations would consent to superintend one on the Society's behalf, and in accordance with the rules laid down for its conduct. No limit as to the age, position, or previous training of the candidates was imposed, and the examination was open to both sexes. One hundred and sixty-nine candidates presented themselves for examination, and were divided into three classes. Twelve of the candidates gained 200 marks and more out of a possible 300 in the first class; thirty-seven gained between 150 and 200 marks in the second class; seventy-three gained between 100 and 150 marks in the third class; and forty-seven having failed to obtain 100 marks were not classed. The names and addresses of the successful candidates, together with the number of marks assigned to each, will be found in the Society's "Journal," vol. xix., part 1, 1895, page 1.

It is proposed to hold a similar examination on Wednesday, May 6th, 1896, and candidates intending to sit for it should apply to the Secretary, 117, Victoria Street, Westminster, during March.

Acting in conjunction with the Lindley Trustees, the Council have devoted considerable attention to the library. All serial publications have been kept up to date, a large number of valuable volumes have been bound, and the following new books amongst others added to the library—viz., Sargent's "Forest Flora of Japan;" M. C. Cooke's "Introduction to the Study of Fungi;" Miller's "Figures of Plants;" Edwards' "Exotic and British Flowers;" "Flore de l'Île de la Réunion," "Flore de l'Algérie;" Miss Amherst's "History of Gardening," &c.

A sum of £120 has been received for the Catalogue Fund, which was started in 1894, and the MS. for the Catalogue is almost ready for the press.

The hearty thanks of the Society are due to the Chiswick Board and to all the members of the Standing Committees—viz., the Scientific, the Fruit and Vegetable, the Floral and the Orchid Committees for the kind and patient attention which they have severally given to their departments.

The best thanks of the Society are also due to all those who, either at home or abroad, have so kindly and liberally presented books to the library or plants or seeds to the gardens. A list of the donors has been prepared, and will be found in the Society's "Journal," vol. xix., part 3, 1896.

The Council wish to express, in their own name and in that of all Fellows of the Society, their great indebtedness to all who have so kindly contributed, either by the exhibition of plants, fruits, flowers, or vegetables, or by the reading of papers, to the success of the fortnightly meetings in the Drill Hall.

A scheme for the affiliation of local horticultural societies was put forward in 1890, and seventy-nine local societies have availed themselves of it. The Council express the hope that Fellows will promote the affiliation of local horticultural and cottage garden societies in their own immediate neighbourhood.

The Council have the sad duty of recording the death of forty Fellows during the year, and amongst them they regret to find the names of Lord Aberdare, Dowager Duchess of Buccleuch, Thomas Baines, Thos. G. Barclay, C. F. Bause, Lady Clarke, Jas. Crispin, Robt. Houlgrave, Prof. Huxley, C. T. Lucas, G. D. Owen, Chas. B. Phillimore, Henry D. Pochin, Geo. Taber, T. R. Watt, John C. Wick, and John Wills.

The following table will show the Society's progress in regard to numerical strength during the past year:—

DEATHS IN 1895.				FELLOWS ELECTED 1895.			
		£	s. d.			£	s. d.
Life Fellows	7	0	0 0	4 guineas	2	8	8 0
4 guineas	2	8	8 0	2 „	56	117	12 0
2 „	15	31	10 0	1 „	231	242	11 0
1 „	16	16	16 0	Associates	4	2	2 0
	40	£56	14 0	Affiliated Societies	14	16	16 0
				Fellows commuted	8		
				= £178 10s.			
					315	£337	9 0
				Deduct loss	196	7	0
				Net increase in income...	£191	2	0
RESIGNATIONS.							
		£	s. d.				
4 guineas	2	8	8 0	New Fellows, &c.....	315		
2 „	33	69	6 0	Deduct resignations and			
1 „	59	61	19 0	deaths.....	134		
	94	£139	13 0				
Total loss.....	134	£196	7 0	Numerical increase	181		

Subjoined is the usual revenue and expenditure account, with the balance-sheet for the year ending December 31st, 1895.

ANNUAL REVENUE AND EXPENDITURE ACCOUNT FOR THE YEAR ENDING 31ST DECEMBER, 1895.

Dr.	£	s.	d.	£	s.	d.
To ESTABLISHMENT EXPENSES—						
Salaries and Wages	644	14	0			
Rent of Office	173	3	0			
Printing and Stationery	203	4	5			
Journal	672	14	11			
Postage	77	11	6			
Coal and Gas	4	16	9			
Donation to Auricula and Primula Society	10	0	0			
Miscellaneous	150	15	10			
				1937	0	5
„ SHOWS AND MEETINGS—						
Rent of Drill Hall and Cleaning	97	19	0			
Temple Show	622	11	9			
Crystal Palace Fruit Show	229	18	7			
Prizes and Medals—						
Vegetable Show	54	4	0			
Rose Show	40	5	0			
Others	146	18	10			
Printing, &c.	4	4	0			
Labour	87	6	11			
Repairs to Tents, &c.	39	0	5			
Superintendent of Flower Shows	50	0	0			
				1372	8	6
„ CHISWICK GARDENS—						
Rent, Rates, Taxes, and Insurance	306	8	8			
Superintendent's Salary	225	0	0			
Labour	713	14	5			
Implements, Manure, Soil, Packing, &c.	121	7	11			
Coal and Coke	213	13	9			
Repairs, Ordinary	96	16	8			
Water and Gas	22	19	11			
Miscellaneous	64	10	8			
				1764	12	0
„ Balance to General Revenue Account				564	1	3
				£5638	2	2

Cr.	£	s.	d.	£	s.	d.
By ANNUAL SUBSCRIPTIONS ..				3354	19	5
„ TEMPLE SHOW ..	1241	19	9			
„ CRYSTAL PALACE FRUIT SHOW ..	205	4	0			
„ DRILL HALL MEETINGS ..	27	14	0			
				1474	17	9
„ ADVERTISEMENTS IN JOURNAL, &c.				209	8	7
„ SALE OF JOURNAL ..				52	15	10
„ MISCELLANEOUS RECEIPTS... ..				39	5	10
„ DIVIDENDS—						
Davis Bequest and Parry's Legacy ..	56	18	4			
Consols, £1750 ..	41	1	0			
				97	19	4
Interest on Deposits ..				3	12	3
„ PRIZES AND MEDALS ..				38	8	1
„ CHISWICK GARDENS—						
Produce Sold ..	339	0	1			
Admissions ..	3	0	0			
Miscellaneous ..	24	15	0			
				366	15	1
				£5638	2	2

We have examined the above Accounts, and find the same correct.

(Signed) HARRY TURNER, } Auditors.
JAMES H. VEITCH,

HARPER BROS., Chartered Accountants.

7th January, 1896.

BALANCE-SHEET, 31st DECEMBER, 1895.

	£	s.	d.	£	s.	d.
To SUNDRY CREDITORS ..				50	1	9
„ Subscriptions, 1896, paid in advance ..				76	18	0
„ Life Compositions ..				246	15	0
„ GENERAL REVENUE ACCOUNT:						
Balance, 1st January, 1895 ..	3051	6	4			
Less Bad Debts ..	2	3	0			
	£3049	3	4			
„ Balance for the Year 1895, as per Revenue and						
Expenditure Account ..	564	1	3			
				3613	4	7
				£3986	19	4

	£	s.	d.	£	s.	d.
By SUNDRY DEBTORS—						
Annual Subscriptions Outstanding, Estimated				20	0	0
at ..				120	3	10
Garden Produce, Advertisements, &c.				34	9	1
Rates and Taxes (Chiswick), paid in advance...						
				174	12	11
„ INVESTMENTS—						
2½ per cent. Consols £2122 8s. 9d. ... cost	1892	11	3			
(£2022 8s. 9d. of this sum is held by the						
Society, subject to the provisos of the will						
of the late J. Davis, Esq.)						
2½ per cent. Consols £1750 ... cost	1768	5	0			
				3660	16	3
„ CASH AT LONDON AND COUNTY BANK—						
On Current Account ..	146	15	10			
„ CASH IN HAND—						
Head Office ..	4	4	3			
Chiswick ..	0	10	1			
				151	10	2
				£3986	19	4

We have examined the above accounts, and find the same correct.

(Signed) HARRY TURNER, } Auditors.
JAMES H. VEITCH,
HARPER BROS., Chartered Accountants.

7th January, 1896.

IN HAWARDEN PARK.

DURING the summer Hawarden parish church is a centre of attraction to the tourist, both American and British. Travellers on the way to or from Ireland time themselves so as to arrive at Chester on Friday or Saturday. The American traveller, whatever day he may land at Liverpool, makes a point of staying over the first week's end, and the Britain-enamoured Briton, taking his holiday in the interesting regions of his own country, does the same. From Chester, with its picturesque streets, its gaunt remnants of gigantic Roman walls, its red cathedral with crumbling stones and tattered flags and general look of airy emptiness, is, for the nonce, only taken by the way. The tourist on the next Sunday morning takes his ticket to Broughton Hall or Sandycroft, unless it rains (when he goes by another line straight on to Hawarden station), for, in order to enjoy the day's pleasures to the full, he takes *en route* for Hawarden village a long and beautiful country walk, where sea breezes play around him, while he walks under ancient Oaks and Elms and Beeches; where the sunlight lies broad and golden on a hundred fields; where the sands of Dee, and hills with white and rosy lights upon them, close the wide view to the right; and where, straight before him, rise in dreamy grandeur the spurs of the Welsh hills, reminding one, as does no other range of hills in England, of the first view of the Alps when Basle lies behind and Lucerne in front.

Then there is Hawarden village on the hilltop. Clean and quiet and just a little sleepy it looks on a Sunday morning, when the blue smoke rising from the comfortable cottages seems to be the only thing that moves for several morning hours. You have not been in time, you tourist folk, to hear the early bells, and see the small stream of villagers who regularly go into the wrought-iron gates leading to the graveyard and to the parish church before 8 A.M. That stream runs steadily each Sunday morning from the village to St. Deiniol's Church, and on the spot where the pigeons, with silvery white wings, flutter around the heavy Ivy-covered gates leading into the grounds of Hawarden Castle, another human stream flows into that of the village. For there is no Sunday in the year, while "the family" is at home, when some members at least of Mr. Gladstone's home circle do not go to the early service. Up to a very recent date one figure was never missing in the party coming through the Castle gates at this hour. Whether the sun shone or the rain fell, whether the storm tossed about the branches of the trees in which he takes such pride and pleasure, or whether from the plains below there rose the thick white famous (or is it infamous?) Welsh mist, Mr. Gladstone himself began his day invariably with paying his tribute to his God in the services of the Church, which he believes will always be faithful to her trust, and to which he has adhered all the days of his life.

There is a very beautiful private walk of somewhat over half a mile from Hawarden Castle to the village church, and along that walk Mr. Gladstone has walked innumerable times, always bound for St. Deiniol's Church. This walk leads upwards first, past a magnificent sloping lawn, where once stood many of the finest trees on this finely timbered estate. Even now there is a cluster of Beeches of such exquisite beauty that as you look up the long, slender, graceful stems you are reminded at once, if you happen to have seen them, of those "poems in stone"—the pillars in Cologne Cathedral. Mr. Gladstone, as he sits in his private library, his "Temple of Peace," at that one of the three desks which is known as the "literary" table, looks out on this unique group of slender trees whose heads are up in the blue, higher than the turrets of the Castle.

On the right, as you ascend the path that passes close by the ruins of the old Castle, you see an Oak of enormous size, which stretches its fantastic branches over you. In Mr. Ruskin's opinion, this tree, to which a century is but a short period of existence, is as near the perfection of a tree as you find it anywhere in this country. The lawn itself, sloping towards the Castle and the walled-in Italian garden, was for many years a great delight to Mr. Gladstone. But the storms have played havoc with many of the finest trees on it, and now, though to others who did not know it before some of the giants fell it looks still a remarkably fine slope, he shakes his head at it, and observes that "it looks like a field."

Through a small Gothic gate you reach the private path in the open park—a green, secluded walk full of bird life all the year round, and with here and there a fine view of the lower parts of the grounds. On the border of the enclosure, through which this path leads to the gates, a graceful building in black and white wood, not unlike an ornamental Swiss chalet, reflects the sunlight in its large windows. Miss Glynn, the daughter of the late Rector of Hawarden, lives in this house, in the building of which there was an interesting period; for when the spot was decided upon where the house was to be erected the whole of the Gladstone family set to work to clear away the trees and the dense underwood with which the whole of the site was covered. And they did not play at doing this, but worked as hard and as steadily as might a colony of settlers somewhere in Canadian backwoods where domestic life could only commence after the ground had been cleared, the log hut built, and the home-made furniture established. Every member of the household helped. Mr. Gladstone and his sons with their axes felled the trees, and Mrs. Gladstone and her daughters cut off branches, removed underwood, and gave a helping hand wherever they could. Nor did they ever leave off till they were thoroughly tired out, and could look back upon a fair day's work.—("Westminster Gazette.")



HARDY FRUIT GARDEN.

Pruning Bush Gooseberries.—The liability which Gooseberry bushes have to suffer from serious depredations by bullfinches and sparrows, which pick out the buds wholesale in many cases, leads numbers of fruit growers to defer the necessary pruning until the present month. Therefore where the bushes have not previously been dealt with as regards winter pruning, the operation must not be unduly delayed. Gooseberries fruit largely on young wood of the previous year, and in pruning the aim ought to be to retain a fair amount of well placed young growths distributed regularly over the trees. In practice it is usually most desirable to thin out judiciously, first removing the most crowded branches and those which descend to the ground, intercrossing others or growing inwards. Then cut out weak shoots and dead wood. A favourite time for bird attacks is when the buds are swelling. On the completion of pruning dust the bushes with lime or soot on a damp day. Strands of black cotton also protect them.

Pruning Gooseberries and Currants on Walls.—The branches being trained 9 inches apart, cordon fashion, on a wall or fence, the pruning is carried out in a different way from that of Gooseberry bushes in the open. Spurs are originated on the front by summer pruning the young wood in June, cutting each shoot back to within an inch of the base at the winter pruning. Thus fruitful buds are formed close to the branches, and birds do not as a rule attack them.

Pruning Currant Bushes.—*Black Currants.*—These are pruned on the lines of bush Gooseberries, leaving in young wood at full length, and pruning out some of the old. Also thin out and regulate so as to fashion symmetrical bushes which are invariably more fruitful than ill-shapen examples.

Red and White Currants.—These are grown with a certain number of main branches, each of which is furnished with spurs that bear the annual crops, the young wood issuing therefrom being shortened in summer and further reduced in winter to within an inch of its origin, leaving clusters of basal buds. The leading growths require shortening at the same time to 6 or 8 inches, which induces the emission of side growths the following year. Fully grown trees must, however, have the extensions cut closely in similar to the side growths.

Pruning and Training Morello Cherries on Walls.—The system of training in young wood annually is the best to adopt, treating the growths much after the same manner as Peaches. The method affords opportunity to rearrange the trees on the wall or trellis; worn out shoots or branches can be readily replaced by others, while the origination of fresh growths in any parts of the trees is easily accomplished. While the trees are away from the wall cleanse the branches and shoots with an insecticide, and fill up the holes and crevices in brick walls with mortar.

In retraining fasten first the principal then the secondary branches in position, and finally the young shoots, training in as far as possible those from the upper sides of the secondary branches. Avoid tight fastenings, also too many ties or nails.

Pruning Sweet Cherries and Plums on Walls.—The best form for training these trees on walls is the fan-shaped, branches radiating at equal distances from a common centre or main stem. Each of these is furnished with spurs, which continue fruitful under a regular system of management. This consists in summer pruning the foreright shoots, so as to concentrate the vigour on the lower buds, these being destined for fruiting buds. The shoots thus shortened in winter are cut back further to a length of 1½ inch. In forming trees from young specimens, the leading growths are not shortened in summer, and not closely in winter. This, however, will be necessary when the branches have reached their limit of extension.

While the trees can be kept healthy and fruitful under the above system of management, there is no need to change it, but it frequently happens that a branch may be lost from a large tree through some cause, and another to take its place is not forthcoming in a suitable position. In this case the space may be filled by training in vigorous shoots from adjoining branches. Such shoots bear when two years old, sometimes earlier. After fruiting they may be removed to make room for others similarly treated or remain permanent. It is very necessary to avoid overcrowding, because no form of growth can be fruitful without a due share of light and abundance of air.

Late Planting Fruit Trees.—The weather has been favourable for planting for some time, yet all trees may not yet be planted, hence it is desirable that they should be assigned their proper positions in well-prepared ground as soon as possible. If obtained in autumn and properly laid in temporarily it is probable they will have formed a number of rootlets, especially if the injured and broken ends of the roots were smoothly pruned. If these details of root-trimming were not carried out at the period named, they must be attended to when planting. Avoid deep holes. Those shallow and wide are the best, because in them the roots can be spread out to their fullest extent, which is most desirable. Lay them out in this manner evenly, commencing with the lowest layers. Spread fine soil over them outwards from the stem.

This is the most rational method of covering the roots, which are

thus secured in proper position and the right direction, whereas careless covering reverses the direction, frequently causing the ends of many roots to be turned upwards. The uppermost layers may be covered 3 or 4 inches. The whole of the soil over the roots mulch with manure of a light open character, and stake the trees securely, using strips of sacking round the stems to prevent abrasions of the bark. Newly planted wall trees should not be secured in position for some time after planting.

FRUIT FORCING.

Vines.—*Early Forced in Pots.*—The Vines will now require abundant supplies of nourishment, and must not sustain any check either through dryness at the roots or in the atmosphere. If the pots are stood on a hard base, insert strips of zinc 3 or 4 inches deep just within the rim, and top-dress with rich turfy loam and decayed manure in equal parts, intermixed with a small handful of superphosphate to each pot. Where the pots are plunged in fermenting material, strips of turf about 3 inches square should be laid over the rim so as to form the necessary dish. The turves should be watered with liquid manure and the plunging material kept moist, especially where the roots are allowed to find their way from the bottom of the pots, and thus, with plenty of active feeders, secure well-grown berries. Top-dressings of some approved fertiliser also should be supplied occasionally, and liquid manure employed for watering, though not keeping the soil sodden.

To encourage the swelling of the berries, keep the laterals below the fruit somewhat closely pinched, but allow those above the bunches more liberty. Avoid overcrowding, as only foliage fully exposed to light elaborates the juices fully and healthfully. Careful treatment is necessary in ventilating at this early season, avoiding cold currents, which cause "rust," prevent free swelling, and sometimes cause cracking of the berries. Ventilate early in the day, affording a little air at 70°, increasing it with the sun heat to 85°, closing between that and 80°, and if an advance follow to 90° all the better. If red spider appear, let the affected leaves be promptly sponged with a weak solution of soft soap and water, keeping the atmosphere ammoniated by damping the walls and paths occasionally with liquid manure. As a preventive and check on red spider and mildew the hot-water pipes may be brushed over with a cream formed of flowers of sulphur and skim milk; this must not be overdone, or it may cause the berries to rust.

Early Forced Planted-out Vines.—The Vines started early in December will need a temperature of 65° at night and 70° to 75° by day whilst in flower, keeping the atmosphere somewhat drier by free ventilation, leaving a little at night, yet a genial condition of the air must be insured by keeping the floors sprinkled two or three times a day during bright weather. Any shy setting varieties may have the pollen distributed by a camel-hair brush. Stop the laterals at the first leaf below the fruit, but those beyond the bunch may be allowed to make two or more joints, provided there is space for the full exposure of the leaves to light and air. Avoid overcrowding, it being better to reduce the laterals, yet the fruit retained must be proportionate to the foliage. Where Vines are heavily cropped they make correspondingly little lateral growth, and the Grapes frequently do not colour, but the same thing occurs with an excess of foliage, simply because sufficient chlorophyll is not formed for conversion at the time of ripening into the essential purple or amber colour. Reduce the crop when necessary, so as to have more growth in the laterals where there is room for them, and so keep the roots active, duly supplying these with nourishment, thereby maintaining a good supply of nutrition.

Vines Started at the New Year.—The Vines are coming into leaf and showing fruit, but do not be in a hurry in disbudding, and let it be done gradually, removing the weak and least promising growths in the first instance, then give further attention when it is seen which shoots are likely to afford the best bunches. One bunch on a spur is as much as is likely to finish satisfactorily, but if there be space, the spurs being widely distant along the rod, two shoots may be left, it being clearly understood that only one is to be allowed to carry fruit, the duplicate only remaining until choice can be made of the best, and in case of two shoots being left, one ought to be near the main rod to keep the spur as short as possible, that bearing fruit being cut away when the crop is cleared. When the Vines are weak it is an excellent plan to allow growth to extend where there is space, even cutting out some growths to allow this, so as to secure stouter wood, larger and plumper eyes, and better bunches the following season. Give the needful attention to outside borders in protecting them sufficiently to prevent chill by frost, heavy rain, or snow.

Vines to Afford Ripe Grapes in July and August.—The Vines must now be started, and as they break most evenly and strongly when assured a moist genial atmosphere, the rods should be damped three times a day and other surfaces sprinkled. It is a bad practice, however, to keep the rods constantly dripping with water, for the tendency in that case is to induce the emission of aerial roots, which are unsightly, if, indeed, they are not prejudicial in appropriating stored up matter, which otherwise would be expended in the formation of roots in the border. Maintain a temperature of 50° at night, 55° by day, and 65° from sun heat until the buds move. If the inside border has become dry, bring it into a thoroughly moist but not sodden condition by repeated applications of water of the same temperature as the house, and if the Vines are weak through heavy cropping afford a supply of liquid manure, not before moistening the border, but after it is watered sufficiently for healthy growth, the liquid being used rather thick or strong. The manurial elements will displace or mingle with the water previously given, and become available as food by the time the Vines are in leaf, the soil having a strong affinity for the salts of the manure, grasping and

retaining them for taking in by the roots as required. A little stable litter should be placed on the outside border to prevent chill, but eschew thick coverings of manure, particularly such as are often left to settle into a soapy mass, giving preference to lumpy, which will afford the needful protection and admit of the free access of air.

Succession Houses.—Vines allowed to start of their own accord usually do so when the mean external temperature reaches 50°, which occurs in April or May; but those under glass are sooner influenced by the warmth, and start into growth towards the close of March or early in April when kept cool, fire heat only being used to exclude frost. The Vines being of the early and midseason varieties then ripen the Grapes in late August or during September with little assistance from fire heat, and are the cheapest grown; but the produce comes in at a time when other fruits are plentiful and the supplies of Grapes from home and abroad are abundant, hence the prices rule low. It is an excellent method, however, of securing Grapes for home use in the late summer and autumn months. The house must be kept cool, ventilating fully on all favourable occasions, and only using fire heat to exclude frost, even where there are plants, for it is desirable to keep the Vines dormant until April, and then give such assistance as the prevalence of spring frosts necessitate. Thus the Vines will have the summer to make their growth and perfect the fruit in.

Late Houses.—Thick-skinned Grapes and late varieties require a long time to grow and perfect the fruit satisfactorily for keeping. Assuming that the Vines were cleared of the Grapes early in January, and the borders have been top-dressed with fresh loam and an approved fertiliser, a good supply of water should be given and a start made without much further delay, so that the Grapes may be thoroughly ripened by the middle of September. Keep the strong young rods in a horizontal or depending position, and secure an even break by syringing two or three times a day. Maintain a temperature of 50° to 55° at night, and on dull days until the buds move, then allow 5° to 10° more by day, and an advance of 10° from sun heat, losing no opportunity of ventilating freely.

Ripe Grapes.—Little heat will be required in the Grape room; indeed, less the better, as it only provokes evaporation, and that means loss of weight and shrinkage, but expel damp by judicious ventilation, striving to prevent its accumulation by that means and a judicious recourse to the heating apparatus. An equable temperature of 45° is most suitable. Replenish the water in the bottles as required without spilling, and promptly remove decayed berries.

New Borders.—The compost for new or renovating old borders should now be prepared. The best for the purpose is the top 2 or 3 inches of a pasture, rich and friable, and in nature neither very light nor very heavy. It, however, is better rather strong than light, provided it contains plenty of gritty matter. Red loams are the best, especially when containing a good percentage of calcareous matter. To good friable loam add a sixth of old mortar rubbish, broken small, removing any pieces of wood. Wood ashes or charred refuse may be employed to a similar extent, and various other substances for supplying potash and other mineral elements can be utilised to advantage. If the soil is poor, a fifth part of short fresh stable manure or horse droppings may be added, with about 28 lbs. of crushed bones to each cartload of compost, and a tenth part of charcoal "nuts." Soils, however, vary so much that no particular formula applies to all cases.

In preparing the border, provide a foot of drainage, the roughest at the bottom and smallest at the top, and on this place a layer of old mortar rubbish, otherwise secure with turves grass side downward. If the border is intended for early Vines, allow a rather sharp incline to the south or front of the outside for throwing off heavy rains, but for early forcing the roots are best wholly inside. Indeed, outside planting is now almost obsolete, the Vines being planted inside, and have borders both inside and out. A width of 6 feet is quite sufficient in the first instance, and that should be formed inside, to which the roots must be confined until the interior is occupied, not making the outside border until the Vines are thoroughly established. The proper time for planting Vines is from the time the buds commence swelling until they are an inch or two long in growth, they being cut back in the winter to the length required, keeping cool, and when planting shaking them out, disentangling the roots and spreading out evenly in the compost.



APIARIAN NOTES.

ECONOMY IN BEE-KEEPING.

ECONOMY is one of the first and most important things beginners should study. Honey gradually sinking in price warrants no outlay for appliances that are not of a really useful and lasting nature. Low priced goods are often the dearer in the end, and the fewer the number of appliances, provided they are sufficient for the work, the better.

I have repeatedly advised bee-keepers either to make their own comb foundation or form themselves into clubs, so that members may mutually assist each other by purchasing direct from the makers, thereby in some cases saving 100 per cent. When comb foundation was first made, and for some years after, full sheets

were almost invariably used, and sugar was then 6d. and upwards per lb., it did not take a very long time to learn that it was a mistake to use full sheets in supers; there was always that disagreeable toughness in the comb, no matter how thin the foundation used.

Now many bee-keepers use only very narrow strips as starters, which, although reducing the yield, insures a superior quality, and it is greater economy to use narrow strips in the body of the hive now that 4 or 5 lbs. of sugar can be got for the price of one pound thirty-four years ago. An outlay of 1s. to 1s. 6d. on sugar will fill hives with combs, which if filled with comb foundation will cost about 5s., or rather more for full-sized hives. The cost to fill the hives I use is to within a fraction 5s. 6d., an excess of 3s. at least over feeding, taking guides into consideration.

The abuse of using full sheets in sections and supers has been fully established. I will show how and when they are permissible in frames, as well as the breadths to be avoided. Strips of foundation from 2 inches broad up to those less than full size are liable to be extended downwards into drone combs; the two best sizes to use are very narrow strips or full-sized sheets.

If the honey flow is on when a swarm is newly hived, it would be unwise to put the bees into a hive without a few full sheets or several empty combs. Long before foundation was introduced swarms in well-managed apiaries were always supplied with empty combs, which enabled the bees to store honey at once and the queen to deposit eggs. The bees of the swarm, having their wax pockets full, soon filled the empty space.

When there is no honey to be had at the time of swarming, one full sheet of foundation will be sufficient; it will soon be extended, and in a few hours after hiving slabs of comb will be built. In the evening feed with syrup, and continue gradually so that an excess will not be stored, and in a few days the hive will be filled with combs.

Driven bees in autumn or after swarms are not benefited by foundation more than mere guides, and drone combs are not liable to be built in excess by either. Swarms limit the extension of their worker combs to the size of their cluster, and thereafter as the colony increases. In summer bee-keepers should be on the alert, watching the work of the bees, and if they begin to build drone comb fill the empty spaces with full-sheeted frames, so as to secure as many straight worker combs as possible for the coming year.—A LANARKSHIRE BEE-KEEPER.

AIDS TO SUCCESS IN BEE-KEEPING.

WITH the advent of the moveable frame hive came a change in the manipulation of bees, and the form in which the honey was placed on the market. This was more observable with honey in the comb than with the run or drained honey. Previously the majority of comb honey could only be obtained from bell-glasses, roughly made boxes, or similar receptacles. These were inconvenient and often wasteful, and in the provincial market towns it was up to recent years a common thing to see large slabs of honey in the comb exposed for sale, and which was often sticky and dark coloured, these being the outside combs, from straw skeps. Now the 1 lb. sections take the place of the above, and are much appreciated by the public.

It is interesting to note the advance that has been made in the small country towns of the Midlands in the sale of honey in this form. In many instances that have come to my knowledge they are obtained from straw skeps, but they appear to be getting less every year, and will in the future when the benefits to be derived from the moveable frame hive are better known. It is, however, possible to obtain well finished sections from the top of straw skeps. This is done by placing a box containing sections on the top of a skep, containing a strong colony of bees—a very simple matter if the top of the skep is flat, as it should be. If it is dome shaped, however, a bedding of clay will keep the box level, and some well finished sections of comb honey will be the result. It is advisable to well cover up the box containing the sections, to prevent an escape of heat, and also preserve an even temperature. In preparing sections for use, it is not advisable to use full sheets of foundation, as the midrib of wax is often objectionable to the palate, a small strip of guide comb being all that is necessary to enable the bees to build their combs straight. But for exhibition purposes full sheets may be used, the aim being to secure a section perfectly filled and well sealed, without any pop holes in the corners.

Bee-keepers who only keep a few stocks are sometimes at a loss to know the simplest and easiest way of fixing foundation in frames or sections. If a roller fixer is obtained no further trouble will be experienced, as it has the advantage of being cheap, and is one of the handiest tools in the market for that purpose. It may be obtained from any dealer in bee appliances who advertises in these pages.

Feeding is important, for without the necessary food it is impossible for bees to make headway, and it is surprising the rapid strides a weak stock of bees will make in the spring if only attended to with a little warm syrup daily. It is a simple matter with a moveable frame hive to determine when to commence and when to finish. For early spring feeding I prefer an inverted bottle, with a piece of muslin tied over its neck. This will prevent an escape of heat, and for autumn I have found nothing better than the rapid Canadian feeder.—AN ENGLISH BEE-KEEPER.

TRADE CATALOGUES RECEIVED.

Bonnett & Roxby, Heathfield, Sussex.—*Seeds.*

J. Carter & Co, 237, High Holborn.—*Tested Grass and Farm Seeds.*

Dobie & Dicks, 66, Deansgate, Manchester.—*Seeds.*

Ellwanger & Barry, Mount Hope Nurseries, Rochester, New York.—*General Catalogue.*

Ransomes, Sims & Jefferies, Limited, Ipswich and London.—*List of Lawn Mowers and Appliances.*



* All correspondence should be directed either to "THE EDITOR" or to "THE PUBLISHER." Letters addressed to Dr. Hogg or members of the staff often remain unopened unavoidably. We request that no one will write privately to any of our correspondents, as doing so subjects them to unjustifiable trouble and expense.

Correspondents should not mix up on the same sheet questions relating to Gardening and those on Bee subjects, and should never send more than two or three questions at once. All articles intended for insertion should be written on one side of the paper only. We cannot reply to questions through the post, and we do not undertake to return rejected communications.

Palm Stems Yellow (F. T. M.).—You do not even mention the name of the Palm. It is *Areca lutescens*, which is much grown for decorative purposes, it is natural for the leafstalks to turn yellow. If the roots of Palms are kept healthy and active, and the plants not exposed to drying currents of air, they develop their natural colour in a suitable temperature.

Magnolias (Inquirer).—A question founded on a presumption is obviously not easy to deal with. The general colour of the organs is green in the early stage, changing to yellow with the development of the anthers, reverting to green after the pollen has been distributed; but the prevailing colours vary in different species, tinges of brown or red being apparent in some of them.

Apple-Growing Districts (T. B.).—There are no better Apples that find their way to London from any part of the world than we have seen from Kent and Herefordshire, though we have seen a deplorable amount of inferior produce in both those counties. Soils and sites vary in every county as well as methods of cultivation. We cannot undertake to answer your other question. The desired information might presumably be had through a medical journal.

Small Sprayers (R. A. C.).—In our issue of October 25th, 1894, a handy little sprayer was illustrated, as advertised and sold by Messrs. W. F. Charles & Co., Loughborough. This would answer your purpose for spraying Carnations with anti-fungus preparations. These are only efficacious when applied in good time as preventives; when the enemy has taken firm possession of the plants the infested leaves cannot be restored to health, whatever may be applied. The worst should be removed and burned, spraying to prevent the increase of the scourge.

Scald on Young Growths of Fig Trees (W. R. H.).—We "do know why Figs go wrong in a collection just below the pruning cut, first a sort of scald appearing, followed by shrinking and death of the parts. The growths above the cuts of the specimens are dried through long severance, but still the disease marks show." Currant and many other hardy plants do the same thing, and it is attributed to frost and other conjectured causes, but the same thing occurs under glass on Figs. It is caused in the case of these by a certain condition of the growths operated on and the entrance of micro-organisms generally by one producing a similar collapse in young Peach and Nectarine growths, being a very common and generally ignored fungus under this form of development. It also invades Apple and Pear trees, also stone fruits, particularly the Cherry, including the hardy Morello. These remarks apply to cases that have come under our observation in practice. If you submit a specimen properly packed in damp moss we shall be pleased to examine it and give the best advice at our command.

Eggs of Insect (G. W., Worcester).—The eggs enclosed are those of a moth popularly called the vapourer (*Orgyia antiqua*), from the peculiar or undulating flight of the male insect. His companion is wingless, and in autumn she deposits her eggs, which hatch out the following April. There appears to be a succession of emergences of the winged insect during the summer. It is one of the insects that lives and thrives even in the heart of smoky towns. The food of the caterpillar is various; probably its preference is for Sloe and Hawthorn, but it is often found both on Plum and Apple trees, also on the Cherry, seldom occurring, however, in sufficiently large numbers to seriously damage the leaves. It is curiously adorned with pencils or "tussocks" of hairs.

Carnation Leaves Diseased (H. H.).—The leaves are infested by the fairy-ring spot fungus (*Heterosporium echinulatum*). The common name was suggested by Mr. W. G. Smith, from the circumstance that the growth of the fungus from the centre of the spot is centrifugal, and the dark colour is apt to be arranged in concentric lines or rings, representing a miniature fairy ring. The fungus was first described by the Rev. M. J. Berkeley twenty-five years ago. The spores are brown in colour, and when produced in great abundance, as in your specimen, together with the threads, darken the spot upon the leaf, and the spot then possesses different shades of colour, according to the number of spores produced. The fungus is, to a great extent, induced by a damp stagnant atmosphere, which facilitates its development from the spores. The plant should be sprayed with a solution of permanganate of potash, say Condy's fluid diluted with an equal amount of rain water, or, if you have not a sprayer, sponge the leaves carefully with the solution. It may be necessary to repeat the dressing, giving the plants plenty of air, but not a very arid, yet comparatively dry condition of the atmosphere.

Destroying Red Spider on Cucumbers and Vines without Injuring Foliage (J. W.).—This is not feasible, for the "spider" has already done some damage, and nothing will prevent injury becoming manifest, it being useless to think of restoring destroyed tissue. The mites, however, may be killed without injury to the foliage beyond that consequential to the attack by heating the hot-water pipes to near boiling point, and coating them with flowers of sulphur in the form of a cream with skim milk, applying with a brush. It must, however, be done with care and judgment, otherwise an overdressing will damage the foliage and fruit. The fumes of sulphur stifle the red spider. They may also be poisoned by recourse to nicotine vapour on a calm evening, the house in either case being made as close as possible before operating. The nicotine is applied by means of a vapouriser, and care must be taken not to give too much, otherwise the foliage of Cucumbers and Vines, some varieties more than others, will be injured. It is absolutely necessary to repeat the fumigation two or three times at intervals of three or four days in order to effect a complete riddance of the pests.

Diseased Fishes (E. S.).—The specimens were in a state of putrefaction internally, and gave off an offensive sickly odour. On examining them the gills were found quite normal, free from confervoid or fungal bodies, but the intestinal parts were quite decayed and swarming with microbes, chiefly septic bacteria, and such as are usually found in infusions of dead animal or vegetable matter. There were also minute bodies of spherical form, which resemble (if not identical with) those of typhoid fever spores. The slime in the water simply contains the usual bodies found in infusions of putrefying organic remains, and are septic in nature, not unlike yeast cells in form, but we are not aware that they are in any way connected with disease in living animals. They, however, produce that condition of the water which is more or less injurious to animal life, and in that respect may so weaken the individual as to induce attack by malignant micro-organisms. The primary cause is the foulness of the water, which unquestionably is due to the organic matter it contains; therefore, the proper course to pursue is to clean out the pond, clear away all the water and filth, and put in some clean gravel, preferably such as that exposed to the atmosphere for some time or taken from running water. It would be advisable to cut off the objectionable supply of water, and lay on fresh, that of springs being better than surface water containing much organic matter, provided it does not contain mineral substances of a nature poisonous to the fish, which is hardly likely in ordinary cases. We have had ponds—both artificial (cemented) and natural (soil)—supplied by both surface water during heavy rains and at other times by spring water, and found the fish thrive admirably, excepting in cases of foulness, and then found Prussian carp the only species that survived, but even this chose the least foul parts of the pond or lake, and would probably have perished had it not been cleaned out and waterfowl introduced.

Names of Fruits.—Notice.—We have pleasure in naming good typical fruits (when the names are discoverable) for the convenience of regular subscribers, who are the growers of such fruit, and not collectors of specimens from non-subscribers. This latter procedure is wholly irregular, and we trust that none of our readers will allow themselves to be made the mediums in infringing our rules. Special attention is directed to the following decision, the object of which is to discourage the growth of inferior and promote the culture of superior varieties. In consequence of the large number of worthless Apples and Pears sent to this office to be named, it has been decided to name only specimens and varieties of approved merit, and to reject the inferior, which are not worth sending or growing. The names and addresses of senders of fruit or flowers to be named must in all cases be enclosed with the specimens, whether letters referring to the fruit are sent by post or

not. The names are not necessarily required for publication, initials sufficing for that. Only six specimens can be named at once, and any beyond that number cannot be preserved. They should be sent on the first indication of change towards ripening. Dessert Pears cannot be named in a hard green state. (S. E.).—The fruit resembles Lemon Pippin in every respect but that of colour. We suspect the variety is an unnamed seedling from the above. (A. T. T.).—1, Cox's Orange Pippin; 2, Wadhurst Pippin; the remainder are probably local varieties that have never had recognised names. (M. C. C.).—1, Catillac; 2, Bellissime d'Hiver. (Leamington).—The Apple is Gooseberry Pippin, and the Pear Catillac.

Names of Plants.—We only undertake to name species of plants, not varieties that have originated from seeds and termed florists' flowers. Flowering specimens are necessary of flowering plants, and Fern fronds should bear spores. Specimens should arrive in a fresh state in firm boxes. Slightly damp moss, soft green grass, or leaves form the best packing, dry wool the worst. Not more than six specimens can be named at once, and the numbers should be visible without untying the ligatures, it being often difficult to separate them when the paper is damp. (W. C.).—The leaf sent was from *Crinum Macowani*. To get this plant to flower the bulb should be kept quite dry during the winter, and allowed to rest in a temperature of about 40°. When growth is again apparent in early spring repot and remove to a warmer house, where, all other conditions being favourable, flowers will follow in due course. The specimen of creeper was so withered as to be entirely beyond recognition. If you send a fresh one in flower we will endeavour to oblige you. (R. A.).—All your specimens were quite dead, probably due to having been in the post over Sunday. (T. C.).—1, *Adiantum gracilimum*; 2, *Asplenium bulbiferum*; 3, *Pteris cretica albo-lineata*. (Orchidist).—1, 2, and 3 are varieties of *Odontoglossum crispum* of no particular merit; 4, *Dendrobium nobile*; 5, *Cattleya Trianae*; 6, a fine form of *Laelia anceps*. (S. R. H.).—Specimen totally insufficient; send when in flower.

COVENT GARDEN MARKET.—FEBRUARY 12TH.

THERE have been no particular variations in the market of late, quantities and prices remaining about the same.

FRUIT.

	s.	d.	s.	d.		s.	d.	s.	d.
Apples, per bushel	2	0	4	6	Lemons, case	11	0	14	0
„ Nova Scotia, barrel	13	0	17	0	Pears, Californian, per case	0	0	0	0
Grapes, per lb.	1	3	2	6	St. Michael Pines, each	2	0	6	0

VEGETABLES.

	s.	d.	s.	d.		s.	d.	s.	d.
Beans, per lb.	0	10	1	0	Mustard and Oress, punnet	0	2	0	0
Beet, Red, dozen	1	0	0	0	Onions, bushel	3	6	4	0
Carrots, bunch	0	3	0	4	Parsley, dozen bunches	2	0	3	0
Cauliflowers, dozen	2	0	3	0	Parsnips, dozen	1	0	0	0
Celery, bundle	1	0	0	0	Potatoes, per cwt.	2	0	4	0
Coleworts, dozen bunches	2	0	4	0	Salsify, bundle	1	0	1	6
Cucumbers, dozen	4	0	10	0	Seakale, per basket	1	6	1	9
Endive, dozen	1	3	1	6	Scorzonera, bundle	1	6	0	0
Herbs, bunch	0	3	0	0	Shallots, per lb.	0	3	0	0
Leeks, bunch	0	2	0	0	Spinach, bushel	2	6	0	2
Lettuce, dozen	1	3	0	0	Sprouts, half siv.	2	6	0	0
Mushrooms, per lb.	0	6	0	8	Tomatoes, per lb.	0	6	0	9
					Turnips, bunch	0	3	0	0

PLANTS IN POTS.

	s.	d.	s.	d.		s.	d.	s.	d.
Arbor Vitæ (golden) dozen	6	0	12	0	Ferns (small) per hundred	4	0	6	0
Aspidistra, dozen	18	0	36	0	Ficus elastica, each	1	0	7	0
Aspidistra, specimen plant	5	0	10	6	Foliage plants, var. each	1	0	5	0
Azalea, per dozen	18	0	36	0	Genista, per dozen	9	0	12	0
Cineraria, dozen pots	6	0	12	0	Hyacinths, dozen pots	6	0	12	0
Cyclamen, dozen pots	8	0	15	0	Lycopodiums, dozen	3	0	4	0
Dracæna, various, dozen	12	0	30	0	Marguerite Daisy, dozen	6	0	9	0
Dracæna viridis, dozen	9	0	18	0	Myrtles, dozen	6	0	9	0
Ericas, various, per dozen	9	0	24	0	Palms, in var., each	1	0	15	0
Euonymus, var., dozen	6	0	18	0	„ (specimens)	21	0	43	0
Evergreens, in var., dozen	6	0	24	0	Solanums, per dozen	8	0	12	0
Ferns in variety, dozen	4	0	18	0	Tulips, dozen pots	6	0	8	0

AVERAGE WHOLESALE PRICES.—OUT FLOWERS.—Orchid Blooms in variety.

	s.	d.	s.	d.		s.	d.	s.	d.
Acacia or Mimosa (French) per bunch	0	9	1	6	Narcissi, var., doz. bunches	1	0	3	0
Anemone (French), dozen bunches	2	0	4	0	Orchids, various, doz. blms.	1	6	12	0
Arum Lilies, 12 blooms	2	0	4	0	Pelargoniums, 12 bunches	6	0	9	0
Asparagus Fern, per bunch	2	0	4	0	Primula (double), dozen sprays	0	6	1	0
Azalea, dozen sprays	0	6	1	0	Roses (indoor), dozen	1	0	2	0
Bouvardias, bunch	0	6	1	0	„ Tea, white, dozen	2	0	4	0
Camellias, dozen blooms	0	9	1	6	„ Yellow, dozen (Niels)	3	0	6	0
Carnations, 12 blooms	1	0	3	0	„ Red, dozen blooms	6	0	9	0
Daffodils, single, doz. blms.	1	6	2	6	„ Safrano (English), dozen	1	6	3	0
„ double, doz. blms.	0	6	1	0	„ Safrano (French), per dozen	1	6	2	0
Eucharis, dozen	3	0	4	0	„ Pink (French), per doz.	3	0	4	0
Gardenias, dozen	6	0	12	0	Smilax, per bunch	5	0	6	0
Geranium, scarlet, doz. bunches	4	0	9	0	Snowdrops, dozen bunches	1	0	1	6
Hyacinth (Roman) dozen sprays	0	4	0	9	Stephanotis, dozen sprays	6	0	9	0
Hyacinths, dozen spikes	2	0	4	0	Tuberose, 12 blooms	0	6	1	0
Lilac (French) per bunch	3	0	5	6	Tulips, dozen blooms	0	6	1	6
Lilium longiflorum, twelve blooms	4	0	6	0	Violets Parme (French), per bunch	4	0	5	0
Lily of the Valley, dozen sprays	0	6	1	0	„ Ozar (French), per bunch	2	0	3	0
Maidenhair Fern, doz. blms.	4	0	8	0	„ Victoria (French), 12 bunches	1	6	2	0
Marguerites, 12 bunches	2	6	4	0	„ English, 12 bunches	1	0	2	0



BARLEY.

IN view of the increasing severity of the competition our home-grown Barley has to meet in the form of foreign Barley and malt substitutes, and more particularly as the foreign produce imported is now of very much improved size and quality in many cases, it is a matter of urgent importance that the English farmer should be able to put on the markets samples which in the matters of evenness, quality, and size will not disgrace him, but uphold worthily the traditions of British agriculture.

Except in very favourable seasons we cannot, in the matter of colour and dryness, compete with the Barleys grown in more sunny climes, but we may compete successfully with them as regards size and malting quality. This will only apply to what are generally classed as Barley soils, as it would be absurd to expect fine Barley to be grown on sour clay or blowing sand.

The foundation for a fine crop of first-class Barley is laid long before the seed is sown. For instance, where the crop is taken after Turnips consumed on the land the greatest care should be exercised in seeing that the troughs are spread well over the fold, and that Turnips carted off for the cattle are taken evenly in strips. In some districts it is usual to "pie" the Swedes in heaps covered with soil as a protection from severe frosts; in such cases when consuming the roots it is very necessary to thoroughly spread all the soil well from each heap, and in fact shovel all away to a depth of 3 inches and throw it over the space around, as otherwise there will be a patch of badly lodged Barley where each heap has stood. As soon as there is room the land should be kept ploughed close up to the fold whenever ploughing is possible, or there will be considerable loss of fertility. The difference between good and bad ploughing is also very material, particularly as regards equality of depth and flatness of sole. In our own experience we have found 5 inches the most suitable on medium soil, greater depth being in favour of bulk rather than quality.

When the ploughing has taken place in the autumn or early winter land is liable in mild seasons to set very hard, in which case we have found another ploughing in spring pays very well, having never failed to find a considerable increase of crop on land so treated. An extra ploughing seems a serious additional expense in these days of low prices, but this one will pay. One of the benefits we derive from a severe winter is that this extra ploughing is generally rendered unnecessary.

Under the worn out four-course system Barley generally followed roots; this still very generally applies, but is gradually changing under the force of circumstances, much of the finest Barley, such as is used by the Burton firms, being grown on Wheat or Oat stubble. Where land is naturally good enough to stand two white crops a fair crop of fine quality may be grown after Wheat with little or no assistance, but after Oats a top-dressing will be necessary: 84 lbs. nitrate of soda and 280 lbs. superphosphates per acre will prove a sufficient dressing to be harrowed in with the seed. The Wheat or Oat stubble should always be well broken up in the autumn, trenched and ploughed down. A second corn crop should never be taken on foul or weedy land, this veto on what is often an easily grown and profitable crop being one of the penalties paid by the bad farmer.

The best time for sowing Barley varies very much in different localities, but April 1st may be taken as the midseason for this operation in England, and any time after March 1st when land is ready and weather suitable. A Yorkshire farmer of an inquiring nature, as an experiment, sowed an acre of Barley every fortnight from January to June, the result being that success attended good seeding; to use his own words, "What went in well did well," there being no exception. The

first essential of a healthy plant is a healthy root, and Barley will not make a good root in wet or cold soil; whereas in free dry land, when the germ develops rapidly, and, like a hungry child, cries loudly for support, the small and fibrous rootlets, like so many industrious bees hastening far afield, spread themselves rapidly through the surrounding earth, and thus lay the firm foundation of a vigorous plant. Whereas in wet soil with shallow cultivation (all the food supply and moisture being near the surface) there is no encouragement or necessity for the formation of roots, so that, like the seed in the parable, when the sun is up it is scorched, and having no root it withers away.

There is no doubt that the use of the drill for sowing Barley is greatly in favour of equality of growth, and therefore of sample, and where the holding is not sufficiently large to warrant the purchase of one it is generally possible to hire. Some people sow Barley broadcast on heavy land to save treading, especially in a time of moisture; but we should prefer to wait until a drill can be used, or if time is pressing, sow Oats instead. A cloud of dust behind the drill gives promise of success, and we all remember the old adage, "A peck of March dust is worth a king's ransom."

WORK ON THE HOME FARM.

Fine open weather still continues. Southerly and westerly winds, a barometer well over 30, with a night temperature in the "forties," make up such a contrast to our experience of a year ago that we may well ask, What is to be the end of it? So far the present winter has been remarkably like that of 1867-68, which preceded a very hot and dry summer. Is the parallel to be completed? Should it be so, one thing is certain—there must be a scarcity of water for the cattle in many districts, as the springs are by no means high at the present time. It therefore behoves every farmer who knows, and has suffered from such a scarcity, to make every preparation to meet it, if the emergency should arise. As regards the weather, we are constantly seeing history repeat itself. Forewarned is forearmed. "It is the early bird that gets the worm," and it is the early sowing farmer who gets the paying crop in a forward and dry season. This more particularly applies to Barley. The difference of a fortnight in time of sowing has in our own experience made a difference of a foot in length of straw; in fact, the later sown crop never really shot at all, the ears being barely visible, and this was not over a small area, but hundreds of acres. The dates were from April 1st to 20th in a hot, dry year. We do not wish to usurp the functions of the Weather Office, but are only hinting at probabilities, whilst at the same time preparing to practise what we preach. Let the motto for 1896 be, "Forward."

Although in the midlands and north we should never advise drilling Barley in February, in the southern and eastern counties an exception might be made in this exceptional season. What a business—a heavy business—it is to retrieve our yards of manure this winter. No coating of iron-bound frost to make carting easy! Let us turn our attention to a lighter task. When were phosphatic manures ever so cheap? We have heard of superphosphate, 26 per cent. soluble, at 33s. on rail. Then be the early bird again, and buy in the early market. Have your fertilisers on the premises, they will not want fetching twice.

On light soils where small weeds flourish, advantage should be taken of the first sufficiently dry state of the surface to give Wheat a good harrowing. The Wheat plant is this year exceptionally strong and thick, therefore do not be afraid of it; a little thinning will be rather advantageous than otherwise. There have been instances where the uprooted plants have been carted off like twitch, and fine crops have followed, in one case the heaviest crop ever grown on the farm; at any rate, be rid of the weeds.

METEOROLOGICAL OBSERVATIONS.

CAMDEN SQUARE, LONDON.

Lat. 51° 32' 40" N.; Long. 0° 8' 0" W.; Altitude 111 feet

DATE.		9 A.M.					IN THE DAY.				Rain.
1896. February.		Barometer at 32° and Sea Level.	Hygrometer.		Direc- tion of Wind.	Temp. of soil at 1 foot.	Shade Tem- perature.		Radiation Temperature		
			Dry.	Wet.			Max.	Min.	In Sun.	On Grass.	
		Inchs.	deg.	deg.		deg.	deg.	deg.	deg.	Inchs.	
Sunday	.. 2	30.570	33.4	32.0	N.W.	39.2	38.6	31.8	47.9	26.4	—
Monday	.. 3	30.732	30.4	30.2	N.E.	38.1	42.5	27.6	60.0	24.8	—
Tuesday	.. 4	30.630	38.2	38.7	N.W.	37.4	41.0	30.0	58.9	26.2	—
Wednesday	5	30.569	39.2	38.2	N.W.	37.3	48.4	32.9	55.4	27.1	—
Thursday	.. 6	30.585	43.1	41.8	S.W.	38.9	44.0	39.5	49.6	35.7	—
Friday	.. 7	30.514	43.1	42.2	W.	38.9	45.2	35.6	51.1	28.2	—
Saturday	.. 8	30.259	42.4	40.9	S.W.	39.1	54.2	35.4	76.8	31.0	0.072
		30.551	38.5	37.4		38.4	44.3	33.3	57.1	28.3	0.072

2nd.—Faint sunshine all day.

3rd.—Foggy early; fine sunny day.

4th.—Slight fog early; cloudy morning; bright sun in afternoon; clear night.

5th.—Fair morning; sunny afternoon.

6th.—Overcast and dull throughout.

7th.—Overcast all day.

8th.—Fair, with the sun visible at times in morning; brilliant afternoon; overcast

A fine but not bright week, noteworthy for the exceptionally high reading of the barometer; temperature near the average.—G. J. SYMONS.

[evening.]

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Journal of Horticulture.

THURSDAY, FEBRUARY 20, 1896.

CHRYSANTHEMUMS UP TO DATE.

ONCE more I have the pleasure, through the kindness of the Editor, of placing before the readers of the *Journal of Horticulture* the results of an election of approved varieties of Japanese and incurved Chrysanthemums carried out by leading growers and exhibitors of this flower in various parts of the kingdom. The election of the two previous years has, I have reason to know, been of much benefit to many, especially beginners, while the publication of the results in these columns has interested many more. In conjunction with the Editor, who is alive to the importance of creating a wider interest in all matters connected with horticulture, quite a new plan was adopted in the method of election. The details entailed much more labour than formerly, but if the results justify the change then the added labour is of small moment.

Instead of obtaining the opinion from one of the acknowledged leading cultivators in each district, as was the plan adopted in former years, the details were so arranged that the joint opinion of each district is recorded, extending from Cornwall to Perth, also embracing the leading cultivators in Wales, it cannot be said that the arrangement is other than a thoroughly representative one. In the first place, forty-eight centres were selected. An invitation was sent to a prominent cultivator in each of these centres, asking for his kindly co-operation. He was then invited to obtain a selection of Japanese and incurved varieties from others interested in his immediate neighbourhood. The capability of such electors was determined by the chief in each centre, the returns being sent to himself in the first instance, he kindly undertaking to tabulate them. In this manner a summary was obtained of the most suitable varieties for each district.

In some centres as many as seven electors took part in the selection, the total number being 105, and from the returns obtained from each centre the final tabulation was made. I take this opportunity of saying that the most hearty co-operation was afforded by those who took part in the compilation, and I wish to express my sincere thanks to all for their

No. 2473.—VOL. XCIV., OLD SERIES.

valuable aid. To none is my thanks more due than to my assistant, Mr. James Threlfall, for services cheerfully rendered in tabulating the returns—work which demanded assiduous attention and scrupulous care in the interests of accuracy.

Owing to the great rapidity in which varieties increase and the size of the classes also at the leading shows, it was felt that the selection of varieties ought to be on a larger scale than hitherto. In the Japanese section fifty varieties were asked for, with a final selection of twenty-four from the fifty. The opinion of electors regarding the most deserving new varieties was also requested, as a selection in this section requires most careful consideration nowadays, owing to the immense increase of varieties annually. The Editor desired me also to extend the election to the incurved section, by reason of the opinions expressed in these columns at the last election. As this is the first time that the incurved varieties have been dealt with in this manner the results cannot fail to be interesting, as a large increase in the number of varieties has taken place during the last ten years.

As showing the wide range of opinion as to what constitutes the best list of fifty varieties in the Japanese section, it is only necessary to point to the fact of there being no fewer than 258 varieties named by 105 electors; 107 took part in the election, but two failed to send in returns in the Japanese section. In the final selection of twenty-four varieties 145 names are given. The fifty-one electors who take part in the selection of twelve new Japanese varieties travel over a wide range, 135 names being recorded. In the returns received for thirty-six varieties of incurved 107 names are given by the ninety-nine voters, and in the final twenty-four, seventy-nine names are mentioned.

The voting, as might be expected from such a wide range, contains some peculiarities. Although 105 voters took part in the election, three failed to make a final selection of twenty-four Japanese. In the selection of twelve new varieties of Japanese only fifty-one ventured to give an opinion. The reason stated for this omission by so many was that they had not had the opportunity to inspect the new sorts, and preferred to leave this selection to those who had. This is entirely commendable, and cannot fail to impress on all interested the desire to elicit the most trustworthy information. In spite of the opinion so often expressed in some quarters that the interest taken in the incurved section is fast losing its hold upon cultivators, no less than ninety-nine electors sent in returns in this section.

My remarks upon the position attained by certain varieties must of necessity be brief. In the Japanese section the results show that four varieties tie for the first place. He would, indeed, be a bold critic who would say that either of the four does not merit the distinction. It cannot but be pleasing to myself to find the variety bearing my name occupying such a prominent position after being in cultivation ten years. Sunflower, sent out two years later, also occupies a high position. Mr. Cannell, the introducer of both, would be justified in reiterating the opinion he gave respecting the prospective popularity of the former at the time of its introduction. With the exception of Stanstead White and Etoile de Lyon, no variety in the first fifty can claim more than six years of existence. W. H. Lincoln, introduced in 1890, comes next in point of age. Vivand Morel was raised by Lacroix in 1891. As showing the regard in which varieties of this type of bloom are still held one has only to point to the position occupied by its sport, Charles Davis.

Madame Carnot and Mons. Panckoucke, both recent introductions by Mons. Calvat, take a very high position in the list. The former is undoubtedly the best white-flowered Chrysanthemum in existence, while the latter occupies a similar place amongst yellow-flowered varieties. Mdlle. Thérèse Rey still maintains its popularity. Mrs. W. H. Lees comes well to the front, and no wonder; when well grown it is one of the best of Japanese Chrysanthemums. I must confess I am somewhat surprised to find Etoile de Lyon and Mrs. C. H. Payne so high in the list, as when

ordinarily cultivated both exhibit a want of refinement. W. Seward, owing to its unique colour, still keeps a good position. Pallanza occupies a place that should commend this variety to cultivators, as it is quite one of the best of yellow-flowered sorts. Readers will note the almost entire absence of the hirsute section. Hairy Wonder alone finds a place in the first fifty; while, with the exception of Mrs. W. J. Godfrey and Mrs. Alpheus Hardy, no variety is mentioned in the long list of 258 varieties, which is a proof of the lack of appreciation of this section.

In the selected twelve new sorts of Japanese, that chance seedling, Edith Tabor, occupies the post of honour, Mrs. H. Weeks coming next with six fewer votes. When carefully inspected this selection cannot fail to impress those interested as to the excellence of the varieties chosen; having regard to the individual merit of each, not one of the twelve varieties can be accused of a want of refinement. This, in my opinion, is a proof that cultivators recognise quality in preference to mere size.

In the incurved section Lord Alcester, Empress of India, and Jeanne d'Arc secure an equal number of votes—ninety-nine. Since its introduction the first named has been regarded as an ideal bloom. To this variety more premier awards have been made than to any other two. Queen of England runs those previously named closely, and so do four members of the Princess of Wales family—viz., the original, Mrs. S. Coleman, Miss M. A. Haggas, and Miss Violet Tomlin. The newer Charles H. Curtis occupies a high position in the list, which it deserves. Robert Petfield and James Agate deserve the place they occupy. Both these recent introductions give the type of bloom required.

Several members of the Queen family are found rather low on the list, notably Mrs. Robinson King, John Doughty, and Golden Queen of England, which is mainly owing to their being somewhat difficult to cultivate. The last named is, however, given under three separate names, the original, John Lambert and Emily Dale, which accounts in some measure for the low position occupied by the type. Globe d'Or has come well to the front, especially as it is quite of recent introduction. Members of the "Teck" family do not occupy a high position; this is owing to the difficulty experienced in having representative blooms of each at given times, especially in the North of England and Scotland. Varieties that exhibit so few distinctive points, extremely narrow petals, roughness of outline, and other defects, find few admirers. A smooth surface is as important in an incurved bloom as is size in the Japanese.

The following brief extracts from letters received show to some extent the opinions regarding the election itself, and the advantages derived from it:—Mr. J. Dumble, Picton Castle Gardens, Haverfordwest, writes, "I am very pleased to see you again purpose publishing a list of the best Chrysanthemums. In South Wales growers and exhibitors are considerably on the increase, and it is to the 'Journal' we look for help in the selection of the best and new varieties."

Mr. W. Messenger, Wolverstone Park, Ipswich, says, "I herewith enclose Chrysanthemum lists. I shall await their publication with curiosity, as no doubt there will be great differences of opinion as to many of the best varieties. If one had to select new varieties from the numerous catalogues issued I fear the mind would be plunged into chaos and darkness."

Mr. J. Folkard, Sandhutton Hall, York, writes, "I have great pleasure in forwarding you lists of Chrysanthemums. I am sure you must have a stout heart to undertake the task of tabulating the many lists that will be sent to you. 'Mum' growers are heavily indebted to you for the assistance you give them through the medium of the 'Journal.'"

Mr. R. Jones, Barford Hill, Warwick, says, "These elections cannot fail to be of service to all Chrysanthemum growers, whether they are exhibitors or not."—EDWIN MOLYNEUX.

[The thanks of the Editor are cordially tendered to Mr. Molyneux and to all who have co-operated with him in this election. The names of the varieties that follow as the first

instalment will afford a good basis for the formation of collections; at the same time it is desirable that as many novelties as possible be tried by cultivators, as such trials are not only interesting, but are the means of affording the best of information in view of future elections of Chrysanthemums. We shall publish the latest portrait of Mr. Molyneux in an early issue as a small mark of recognition of the services rendered by him in the present undertaking, which he has carried out so well.]

VOTES FOR FIFTY JAPANESE VARIETIES.

105	Edwin Molyneux	18	Mrs. E. G. Hill
105	Madame Carnot	17	Mrs. Dr. Ward
105	Charles Davis	14	Golden Wedding
105	Vivian Morel	14	Mephisto
102	Mons. Panckoucke	14	Graphie
101	Mdlle. Thérèse Rey	14	John Shrimpton
99	Mrs. W. H. Lees	13	Princess May
98	Col. W. B. Smith	13	Boule d'Or
96	G. C. Schwabe	12	Charles Blick
90	Sunflower	11	Miss Elsie Teichmann
88	Mdlle. Marie Hoste	11	Abbé Mendenhall
88	Mrs. C. Harman Payne	11	W. Bolia
88	Etoile de Lyon	11	Boule d'Or (Calvat's)
87	Louise	11	President Armand
85	International	11	Préfet Robert
83	Mutual Friend	10	Mrs. H. Weeks
83	Niveus	10	Philadelphia
81	Miss Dorothea Shea	10	Mrs. E. W. Clarke
81	William Seward	9	Le Mouchetotte
79	Thomas Wilkins	8	Mrs. G. J. Beer
74	Rose Wynne	8	Mrs. C. W. Wheeler
74	Duke of York	7	Puritan
73	H. L. Sunderbruck	7	Amos Perry
71	Mons. Ch. Molin	7	Sir E. T. Smith
70	President Borel	7	James Myers
68	Viscountess Hambleton	7	Violetta
67	Robert Owen	7	The Queen
65	Duchess of Wellington	6	Owen Thomas
64	Golden Gate	6	C. H. Payne
64	W. G. Newitt	6	Mrs. T. Denne
63	Deuil de Jules Ferry	6	Beauté Toulousaine
63	Pallanza	6	John Machar
60	Madame Ad. Chatin	6	Mrs. W. J. Godfrey
60	Hairy Wonder	5	Madame Rozaine
59	Florence Davis	5	Mons. Bernard
59	Mdlle. M. A. de Galbert	5	Col. T. C. Bourne
58	Van den Heede	5	Lilian B. Bird
58	Reine d'Angleterre	5	John Seward
56	Eva Knowles	5	Lily Love
55	Eda Prass	5	Mons. H. J. Jones
54	Phœbus	5	William Fife
53	Commandant Blusset	5	E. L. Jamieson
53	Miss Rita Schroeter	5	Miss Goschen
52	W. H. Lincoln	4	Lady Randolph
51	Duchess of York	4	Lady Byron
51	Charles Shrimpton	4	Mrs. E. G. Whittle
49	Richard Dean	4	Baronne de Buffières
48	Stanstead White	4	Pearl Beauty
46	Wilfred Marshall	4	Mons. Alf. Giroud
45	Mons. Georges Biron	4	W. W. Coles
		4	Vice-President Audiguier
44	Souvenir de la Petite Amie	4	A. H. Fewkes
41	Lord Brooke	4	Mrs. J. G. Iis
39	Primrose League	4	Mons. Aug. de Lacvivier
38	Good Gracious	4	Noces d'Or
36	Mrs. Falconer Jameson	4	Mrs. John Shrimpton
36	Mrs. C. E. Shea	4	Madame Cambon
36	Mons. Gruyer	3	Mrs. E. D. Adams
35	W. Tricker	3	Val d'Andorre
35	Madame Ricoud	3	Jules Chrétien
35	Col. Chase	3	Mrs. Magee
32	Madame Ad. Moulin	3	Violet Rose
32	Henri Jacotot fils	3	Queen of Buffs
31	Silver King	3	Gloire de Rocher
31	G. W. Childs	3	Mr. R. B. Martin
31	Miss Maggie Blenkiron	3	Emily Silsbury
28	Beauty of Teignmouth	3	Mons. Ph. Dewolfs
27	Mons. Chenon de Lèche	3	Madame C. Capitante
25	Lady E. Saunders	3	Mrs. George Gordon
23	Waban	3	Inter Ocean
23	Beauty of Castlewood	3	Mrs. H. T. Drewitt
23	L'Isère	3	Mdlle. Thérèse Panckoucke
23	Miss Ethel Addison	2	Le Verseau
21	Avalanche	2	Elmir D. Smith
21	Directeur Tisserand	2	Robert Flowerday
21	Madame C. Molin	2	Le Colosse Grenoblois
20	Madame Octavie Mirbeau	2	Challenge
20	Mrs. E. S. Trafford	2	Le Prince du Bois
19	Edith Tabor	2	J. Stanborough Libben

VOTES FOR FIFTY JAPANESE VARIETIES (continued)—

2	Mrs. Peter Blair	1	Cecil Wray
2	Miss Rose Shotter	1	R. C. Kingston
2	Nyanza	1	Thomas Hewitt
2	Miss Dulcie Schroeter	1	Mrs. A. Hardy
2	Thunberg	1	Maggie Shea
2	Amiral Avellan	1	Mrs. Seward
2	Alberic Lunden	1	Ernest Fierens
2	Fred. Waterton	1	Souvenir de Jambon
2	Bride of Maidenhead	1	Le Vierge
2	Pride of Madford	1	C. J. Mills
2	Miss A. Hartshorn	1	Madame E. Rey
2	R. Ballantine	1	Souvenir de Toulon
2	W. H. Fowler	1	Mons. Gache
2	Desdemona	1	Lady Playfair
2	Madame E. Capitante	1	Gold Dust
2	Mrs. H. Robinson	1	Mrs. J. Wright
2	Mr. H. Broomhead	1	E. Forgeot
2	Mrs. R. J. Hamill	1	Madame M. Giroud
2	Australian Gold	1	Sarah Hill
2	Dorothy Seward	1	Frank Wells
2	Mrs. R. W. E. Murray	1	Captain Torrens
2	Mrs. C. Cox	1	Deademona
2	Guirlande	1	Theodore Bock
2	Excelsior	1	Alice Seward
2	Madame Calvat	1	Mons. G. Montigny
2	Kentish Yellow	1	Miss B. Fletcher
2	Silver Cloud	1	Mrs. Jeremiah Coleman
2	T. Dennis	1	Mons. Thomas Hallyer
2	Mons. Adrien Armand	1	Mons. Fournier
2	Belle Arlesienne	1	Milano
2	Beauty of Exmouth	1	Olive Oclee
2	Edelweiss	1	Tendresse
2	Kentish White	1	Lago Maggiore
2	W. Slogrove	1	Sarah Owen
2	Mrs. Herman Kloss	1	Louise Cox
2	Triomphe de St. Laurient	1	C. B. Haywood
2	Mrs. J. Thompson	1	A. T. Ewing
1	President Carnot	1	Antoinette
1	Mrs. A. G. Hubbuck	1	Crystal Queen
1	La Chirine	1	Mons. Demay-Taillandier
1	Welton Beauty	1	Simplicity
1	J. Lightfoot	1	Modesto
1	Leon Frache	1	Madame Apprin
1	E. G. Hill	1	King of Chrysanthemums
1	Midwinter	1	M. B. Spaulding
1	Edwin Lonsdale	1	Madame C. Champon
1	Mons. Joanny Molin	1	W. H. Atkinson
1	Vice-President Calvat	1	Bynum Schiltzges
1	Comtesse Lurani	1	Madame Henri Robert
1	Vice-President Darquier		
1	Mrs. F. C. Capitante		
1	Mrs. Walter Cutting		

258 varieties.

VOTES FOR TWENTY-FOUR JAPANESE VARIETIES.

102	Edwin Molyneux	22	Charles Shrimpton
102	Vivian Morel	21	Miss Rita Schroeter
101	Madame Carnot	21	Hairy Wonder
100	Charles Davis	20	Golden Gate
94	Mons. Panckoucke	19	Deuil de Jules Ferry
91	Mdlle. Thérèse Rey	19	Duchess of York
89	Col. W. B. Smith	18	W. H. Lincoln
87	Mrs. W. H. Lees	17	Stanstead White
69	G. C. Schwabe	17	Good Gracious
69	Mutual Friend	15	Richard Dean
60	Mrs. C. Harman Payne	15	Beauty of Teignmouth
55	Miss Dorothea Shea	14	Edith Tabor
52	Sunflower	14	Mrs. C. E. Shea
46	Duke of York	14	Mons. Chenon de Lèche
46	Mdlle. Marie Hoste	14	Mons. Georges Biron
46	International	14	W. G. Newitt
43	Pallanza	14	Commandant Blusset
43	Mons. Ch. Molin	13	Madame M. Ricoud
41	Etoile de Lyon	13	Henri Jacotot, fils
40	Thomas Wilkins	12	Florence Davis
38	William Seward	11	Eda Prass
36	Reine d'Angleterre	11	Lord Brooke
36	Viscountess Hambleton	10	Mrs. H. Weeks
35	H. L. Sunderbruck	10	Wilfred Marshall
		9	G. W. Childs
34	Eva Knowles	9	Miss Ethel Addison
34	Niveus	9	Madame Ch. Molin
33	Phœbus	9	Madame Ad. Moulin
33	Robert Owen	8	Mons. Gruyer
29	Madame Ad. Chatin	8	W. Tricker
28	Mdlle. M. A. de Galbert	8	Col. Chase
28	Van den Heede	7	Directeur Tisserand
27	Duchess of Wellington	7	Primrose League
25	Louise	6	Beauty of Castlewood
24	Rose Wynne	6	Souvenir de la Petite Amie
24	President Borel	6	Miss Maggie Blenkiron

VOTES FOR TWENTY-FOUR JAPANESE VARIETIES (*continued*)—

5	Silver King	1	Mrs. Hermann Kloss
5	Mrs. E. G. Hill	1	Excelsior
5	Waban	1	Mrs. W. J. Godfrey
4	Miss Elsie Teichmann	1	Mrs. Magee
4	John Machar	1	Vice-President Audiguier
4	President Armand	1	Le Colosse Grenoblois
4	Mdme. Octavie Mirbeau	1	Vice-President Calvat
4	E. L. Jamieson	1	Mdme. E. Capitante
4	Emily Silsbury	1	Mrs. H. T. Drewett
4	Golden Wedding	1	Mdile. Thérèse Panckoucke
4	L'Isère	1	Fred Waterton
4	Mrs. Falconer Jameson	1	Mr. R. B. Martin
3	Mrs. E. W. Clark	1	Elmer D. Smith
3	Le Moucherotte	1	W. H. Fowler
3	Mrs. John Shrimpton	1	Madame M. Giroud
3	Lady Byron	1	Antoinette
3	Boule d'Or	1	Edelweiss
3	John Seward	1	C. B. Haywood
3	John Shrimpton	1	Mons. H. J. Jones
3	Graphic	1	Edmund Bevan
3	The Queen	1	Lago Maggiore
3	Mrs. C. W. Wheeler	1	C. H. Payne
3	Mrs. E. S. Trafford	1	Tendresse
3	Princess May	1	Miss Dulcie Schroeter
3	Préfet Robert	1	Mrs. Dr. Ward
2	Boule d'Or (Calvat's)	1	Mrs. E. G. Whittle
2	Australian Gold	1	Col. T. C. Bourne
2	Beauté Toulousaine	1	Owen Thomas
2	Mons. Bernard	1	King of Chrysanthemums
2	Abbé Mendenhall	1	Silver Cloud
2	Mephisto	1	William Fife
2	Lady E. Saunders	1	Mons. Alf. Giroud
2	Mrs. George Gordon	1	Amos Perry
2	Mrs. T. Denne	1	J. Stanborough Dibben
1	Avalanche	1	Mons. Joanny Molin
1	Thomas Hewitt	1	Baronne de Buffières
1	Dorothy Seward		
1	William Slogrove		

145 varieties.

VOTES FOR TWELVE NEW JAPANESE VARIETIES.

51	Edith Tabor	3	Miss Mary Godfrey
45	Mrs. H. Weeks	3	J. W. McHattie
32	Mons. Cheron de Léche	3	Wood's Pet
31	Dorothy Seward	3	Hairy Wonder
27	Mrs. John Shrimpton	3	The Queen
24	John Seward	3	Mons. Panckoucke
22	Pallanza	3	Mrs. Magee
21	Mutual Friend	3	Madame Ad. Chatin
21	Phœbus	3	Thomas Wilkins
21	Madame Carnot	3	Princess Ena
20	Lago Maggiore	3	Mrs. W. J. Godfrey
20	Reine d'Angleterre	3	Miss Dulcie Schroeter
19	Lady Byron	3	Mrs. E. S. Trafford
19	Miss Rita Schroeter	3	Mrs. Higinbotham
18	Boule d'Or (Calvat's)	3	Pride of Madford
18	Emily Silsbury	3	Sunstone
15	Mrs. Charles Blick	2	Maggie Shea
14	Mrs. Hermann Kloss	2	A. H. Wood
13	Oceana	2	Australia
13	Duchess of York	2	President Carnot
13	Eva Knowles	2	Jules Chrétien
12	Mrs. C. E. Shea	2	Queen of Buffs
11	Miss Elsie Teichmann	2	Mr. A. Payne
10	William Slogrove	2	Rev. S. J. Scott
9	Le Moucherotte	2	Matthew Hodgson
9	Graphic	2	Lady Esther Smith
9	Arona	2	Lady Ridgeway
9	Directeur Tisserand	2	Miss Goschen
8	Mons. Gruyer	2	William Fife
8	Mrs. W. H. Lees	2	Miss Maggie Blenkiron
8	Mdile. M. A. de Galbert	2	Mephisto
7	Deuil de Jules Ferry	2	H. L. Sunderbruck
7	Bellem	2	President Armand
7	Mons. C. H. Payne	2	Richard Dean
7	Philadelphia	2	Lady Randolph
7	Mons. Ch. Molin	2	General Roberts
5	Australian Gold	2	Owen Thomas
5	Olive Oclea	1	Mrs. Carpenter
5	C. B. Haywood	1	Mrs. Richard Jones
4	Beauty of Teignmouth	1	Simplicity
4	W. Wright	1	Western King
4	Col. T. C. Bourne	1	J. Bidencope
4	Mrs. A. G. Hubbuck	1	Mons. Demay-Taillandier
4	Mr. P. Purnell	1	Latest Fad
4	Mons. Georges Biron	1	Mayflower
4	Madame Rozaine	1	Mrs. George Gordon
4	Duchess of Wellington	1	Eugénie Dailedouze
4	Mrs. Hume Long	1	Nyanza
3	Amiral Avellan	1	Antoinette
		1	Madame Ad. Cordonnier

VOTES FOR TWELVE NEW JAPANESE VARIETIES (*continued*)—

1	Mons. Aug. de Lacvivier	1	Miss Bronna Foster
1	Lady E. Saunders	1	Milky White
1	Abbé Mendenhall	1	Van den Heede
1	Mr. R. B. Martin	1	Rose Wynne
1	Mdme. Ad. Moulin	1	William Bolia
1	Theodore Buck	1	Miss Rose Shotter
1	Lady Playfair	1	Hallow E'en
1	Mrs. G. H. Smart	1	Mrs. J. George Ils
1	Pride of Maidenhead	1	Mrs. G. J. Beer
1	Mrs. Geo. West	1	A. H. Fewkes
1	John Lightfoot	1	Silver King
1	Pride of Exmouth	1	Le Colosse Grenoblois
1	Miss Dorothea Shea	1	Mrs. Smith Rylands
1	Pride of Swanley	1	John Machar
1	Mrs. Henry Cheesman	1	Good Gracious
1	Alice M. Love	1	Mdme. G. Capitante
1	Miss Muriel Goschen	1	Mdile. Thérèse Panckoucke
1	H. W. Hieman		
1	The Egyptian		

135 varieties

(To be concluded.)

THE VALUE OF OBSERVATION.

ADMITTING this in its entirety, it may, I think, be termed the vital necessity of observation in so far as it relates to the sphere of a gardener's work. These brief remarks, which may possibly serve as a slight refresher to old travellers, will, I trust, open out or further develop a train of thought in younger ones. Moreover, there are side lights, less clear, but equally important, emanating from the subject, and it is rather to these than to the more conspicuous principle involved to which I would call attention. These side lights embrace a larger area, taking in both readers and writers—learners and teachers, as well as our text book, the *Journal of Horticulture*. Now this text book, guide, friend, or what you will—to my mind it is each and all of these designations—differs as much from other educational works and methods as does the subject it treats of to all subjects foreign to horticulture. Was this not the case, and all its matter reduced to lines of mathematical precision for our guidance, then, and then only, might we rest assured that nothing could be said or done beyond following the lessons and repeating them for the benefit of younger scholars and future generations. Should such be even remotely possible, then, I fear, whilst surmounting many troubles, we shall have dispensed with the most potent charms of gardening. In the infinite variety, the many surprises, and the all but boundless possibilities lies the fascination of the art. When duty becomes merged into an all-absorbing passion the consciousness of power is felt, and felt to be practically unlimited; for power, in whatever shape or form, is man's desire, and distinguishes him according to the degree he is possessed of it. So we see men live and move and feel with the plastic objects of their care, insensible to heat and drought, rain or frost, only so far as these factors affect the objects of their paternal anxiety. From this strong light may be noted convergent rays, side lights, illumining the more obscure tributaries to success.

Whilst it may be granted that the successful gardener attains and maintains his position by the exercise of various attributes, it is not so clearly defined that his adaptability to circumstances is a high potential of means to the end. Adaptability to circumstances can only, in our case, proceed from untiring observation. There is no item of an observant man's charge (and they are many) but what is felt to be an important unit to the sum of his success. Our observant man is a great reader—all good gardeners are; but here the difference is found in his interpretation of other people's practice, and it is this observation which extracts and assimilates the essence of teaching—the spirit from the letter.

We may take it that a Cattleya, or a Cucumber, or any one variety of a species, possesses sufficient family traits of character to justify the same treatment being accorded to it in order to attain the like results. What is good for the plant in London is good for it in Lincoln or at the Land's End; consequently, on this basis, it is only necessary for the man at the one end to faithfully copy the successful practice of the man at the other to produce the same satisfactory results. Yet the observant man is aware that the outlines only may, as a rule, be strictly adhered to; the detailed filling-in must be done by himself according to a variety of circumstances which environ him.

A simple illustration may more clearly point my meaning. Most, all in fact, of our skilled orchidists are agreed that more than ordinary care is required to maintain plants of *Phalenopsis* in good health during the dull season of the year, and we note the emphasis laid by our guides on Orchid matters of careful watering with due precaution to avoid wetting the foliage. Well and good. Those who have experience of this class of plants will not question

the wisdom of the advice; consequently it appears at first sight somewhat startling to see, as I see, a fine plant of *P. Stuartiana* receiving through the winter on, at least alternate days, a vigorous douche of tepid water all over from the syringe, and enjoying it, too. This particular plant is suspended in a warm, dry corner over a network of pipes branching to other houses. As this house, an old one, is far from being air-tight, a buoyant atmosphere is constantly maintained.

Another case is that of a gentleman visitor who was pleased with the luxuriant appearance of a house of Maidenhair Ferns, and in response to his inquiries was told that the plants had been top-dressed with a sprinkling of fish manure. He, on returning home, bade his gardener do likewise. The sequel in this case, given on a subsequent visit, was, "Oh, that stuff killed all my Ferns," but it was elicited that it had been carelessly applied by scattering it over the crowns, which it had burned.

One might probably be able to recount dozens of similar instances in which precept and practice appear to be utterly at variance, and not at any season occurring more frequently than during the time now at hand—the season of seed-sowing. The best and soundest advice that is given, or could be given, in these or any pages devoted to the subject must be filtered through the medium of observation, and this alone will fit it to the varied conditions of a gardener's surroundings, which may mean his soil, or his climate, his houses, or even his boilers. There are, in fact, so many little things contingent on success which only observation can record.

Let it not be thought that anything advanced here tends to minimise the value of the lessons as freely given as they are gratefully accepted. The more keenly observant a man is the more anxious is he to grasp all the facts which can be placed before him, and the more clearly and exhaustively they are laid down the easier and better will he bend them to his purpose. Hence I venture to suggest to our practical writers the value of ample details, including those of local conditions when treating on broad subjects, so far as it is possible or consistent to give them.

The most lucid exposition of any one phase of culture is as much suggestive as it is authoritative. For instance, Mr. Arnott's clever articles on hardy flowers are redolent with the spirit of this teaching. One is carried with him from plant to plant in sunny spot or shady nook of his northern home, and ever and anon transported to the native habitat of his pets. The reader not only knows all the writer knows, but is lured on to think over nicer points or little mysteries as yet unrevealed.

One cannot but feel that observation is a great power; a power sufficient to place the humblest worker on a pedestal as high as the tether of his duties will permit. The progress of the age demands it; we must give it or be ranked with those who "will not conform to the march of time, but are dragged along in the procession."—INVICTA.



CYPRIPEDIUM JAMES BUCKINGHAM.

To Mr. A. J. Hollington of Enfield orchidists are already indebted for several hybrid *Cypripediums*, and another was added to the list at the last meeting of the Royal Horticultural Society, when the Orchid Committee adjudged an award of merit for *C. James Buckingham*, of which the woodcut (fig. 23) is a representation. We are informed that this handsome form resulted from a cross between *C. enfieldiense* and *C. bellatulum*. The flower is not very large, but all the organs are of remarkable substance. The broad dorsal sepal is deep rose, veined with white, the petals being also rose, suffused with whitish green, and spotted with brown. The pouch is of deep rosy maroon. Through an oversight this hybrid was given as *C. Jamesonum* in our last issue.

ORCHIDS AT EDGBASTON BOTANIC GARDENS.

At the present time the Orchids in these popular gardens are making a very imposing display, as well by their great diversity as by their numbers. There are species and varieties of such as *Cypripediums*, *Saccolabiums*, *Calanthes*, *Coelogynes*, *Lycastes*, *Epidendrums*, *Sophronites*, and *Zygopetalums*, besides others, but

those mentioned are more especially worthy of attention. They reflect great credit on the skilful Curator, Mr. W. B. Latham.—G.

ORCHID GROUPS.

THE wondrous diversity in the Orchid family, combined with their striking and handsome appearance, render groups of various species much more attractive than those of any other class of plant, provided they are lightly and tastefully arranged. They differ from most other families in that they require nothing else than some suitable greenery as a set-off to their delicately tinted blossoms, the mixing of various other stove or greenhouse flowering or foliage plants as a rule detracting from the appearance of the arrangement. There are a few plants that look really well



FIG. 23.—CYPRIPEDIUM JAMES BUCKINGHAM.

in conjunction with Orchids, and these are, as a rule, simply formed flowers of bright and telling colour, such, for instance, as *Anthurium* of the *Andreanum* or *Scherzerianum* type, *Iris fimbriata*, and others, while in early winter if Orchids are scarce a few *Poinsettias* look very well.

If, however, we are to judge from the groups usually arranged by trade and other growers at many of our leading exhibitions the art of tasteful grouping is not common. Flat sloping arrangements, with as many plants crammed into a given space as it is possible to get there, and a trim fringe of *Panicum*, with possibly a plant or two of *Isolepis* or *Caladium argyrites* dotted about at regular intervals, and the group is complete. How much better this would be if Orchid growers, instead of trying to show off every plant they happen to have in flower, would take their cue from some of the truly artistic and beautiful groups of miscellaneous plants that are now becoming so popular, and instead of the flat gaudy bank of flower which only tires the eye of visitors we should then see the natural and pretty undulations of surface, and the pleasing combinations of form and colour that Orchids, and only Orchids, possess.

But it is not at exhibitions only that this kind of thing prevails, for more often than not the arrangement of the flowering house at private establishments leaves much to be desired. True, it is not in every place that a suitable house exists for the purpose, and many good houses are spoilt by the style of staging in them. Nothing is more difficult than to conceive a pretty and natural arrangement of plants on a high straight stage, such as is commonly fixed in modern plant houses. A low stage or none at all is preferable, for many Orchids are prettiest when looked down on from a higher level, while any that require it are easily raised or suspended at the height required.

Let us suppose we have a house with sufficient floor space for the plants at command and no staging at all in it. The idea for the outline of the group must be worked out on the floor with a little moss or soil first of all, and in order to break up the surface stand one or two Palms of suitable kinds in prominent positions, not regularly dotted about, but placed here and there where the graceful outline of the stems and foliage shows to good

advantage. If there are any of the long twining species of *Oncidium*s in flower they look very well hanging loosely about the Palm leaves, and this is a much better way of showing them than twisting and tying them around stakes. The body of the group must then be filled up in any way that occurs to the mind at the time, and varying, of course, with the season and the number of plants in bloom.

A pretty mound may be made by placing several plants of *Odontoglossum crispum* at the base, allowing the spikes to stand just as they grow, arching, horizontal, or erect; for in this way only is their true beauty seen. Then a plant or two of the purple *O. Edwardi*, with graceful branching spike, lend both lightness and colour, while any vacant place may be filled with some light and graceful Fern, or a finely cut Palm, such as *Cocos Weddelliana*. Or on a groundwork of the showy *Masdevallia Harryana* or *igneae* let a few spikes of *Odontoglossum Pescatorei* of the older, small-flowering type rise at good distance apart. A pretty combination in winter is *Zygopetalum Mackayi* and the deciduous *Calanthe Veitchi*, the former standing singly, the latter boldly massed; while among *Cattleyas* and *Dendrobies* there are some of the most exquisite tints that only require careful blending to produce pleasing and beautiful effects. Scores of other species that associate well may be named, but probably not much good would thereby result, for everything depends on the material to hand, and these will suggest themselves to anyone interested as the work of arrangement is in progress.

A subdued light is best, either to show the flowers to the best advantage or to conserve them; but all tinted shading should be avoided. The ordinary net so largely used for blinds to Orchid houses makes the best shade for the flowering house. Not much tying of the plants should be practised, and whatever is done must be done while the plants are in bud, never after the flowers open, for this ruins their carriage, making them look strained and unnatural. Never allow one style of arrangement to remain for long, as a change of position is beneficial to the plants; it is practice for the operator, and the interest of visitors is more constantly maintained.—H. R. R.

CATTELEYA PERCIVALIANA.

PLEASE inform me how to treat an unhealthy *Cattleya Percivaliana*. The young growths have turned black, and the other leaves yellow. What is the cause of this? If not occupying too much space I should also like to know if *Cattleyas*, *Dendrobiums*, and *Odontoglossums* can be grown well enough to flower in a heated frame.—W. S.

[Your plant of *Cattleya Percivaliana* must have been very inconsiderately watered, probably kept much too wet, and most likely given cold water. We should advise you to keep it perfectly dry for a time, as in a case like this it is quite obvious that there is something radically wrong. When it has got quite dry you will see whether any of the young growths you speak of are any good or not, and, if not, cut them clean off with a sharp knife, carefully avoiding injury to the base of the pseudo-bulbs. Place the plant in the warmest and lightest position you have at command, and the dormant eyes at the base of the pseudo-bulbs will break again, that is if the plant is not too far gone. When this is the case be very careful that not a drop of water touches the new shoots, dipping the plant in a pail or some other vessel instead of watering in the ordinary way, and let the compost run quite dry, so that the moss looks rather white, before giving a fresh supply. Grow it carefully and water judiciously, avoiding a too moist condition of the atmosphere, and you may bring the plant round.

If, as we suspect, the compost itself is in a bad condition, the plant must be repotted early in April, as by that time the sun will have more power, and you can maintain a better atmosphere than at this time of year. Broken charcoal mixed judiciously with the compost forms an excellent medium for keeping it sweet, but instructions as to repotting you will find fully described in back numbers of the *Journal*, and a reference to these will probably assist you in other cultural details.

If properly attended to the Orchids you name can be grown well in a heated frame. The principal points to study in this kind of culture are the ventilation, atmospheric moisture, and light. The somewhat confined space is much more liable to fluctuations of all kinds than a larger and more spacious structure. If you will send us particulars as to the kind of frame you possess, its aspect, size, and the way in which it is heated and ventilated, we will endeavour to give directions that will enable you, if you are reasonably observant of the habits of Orchids, to grow them; but without careful study of their likes and dislikes, and unremitting attention to their wants, you cannot hope to be successful with them.]

CELOGYNE CRISTATA.

NEXT to *Cattleya Trianae* this, says a writer in a transatlantic contemporary, is the most useful Orchid of the midwinter season. The abundance of its snowy flowers, its dwarf habit and dark glossy foliage make it truly beautiful at this season. The flowers, which measure about 4 inches across, are produced in loose racemes resting on the foliage. Except for the rich golden yellow fringes inside the lip, the colour is pure white. The bracteate peduncle springs from the base of an oblong, shining, bright green pseudo-bulb of a walnut's size. The pseudo-bulbs are formed on creeping stems, and bear one or two long strap-shaped leaves of a dark green colour. A cool well ventilated house in a northern position is best in the summer, and during the flowering season the plants should be kept in the coolest part of the greenhouse. While growing they need frequent syringing and watering and occasional fertilising with weak liquid manure.

HORTICULTURAL HISTORY NOTES.

KING'S ROAD, CHELSEA, IN ITS NURSERY DAYS.

PROBABLY in this good year 1896 there survives not at Chelsea or elsewhere anyone who remembers the place when it was but a village. Still, Chelsea has aged veterans amongst its time-honoured pensioners, and other old inhabitants who can go a good way back, so there are some who can distinctly picture it to us as a semi-rural suburb, separated from adjacent Westminster by a stretch of common land and market gardens. Even at the date of Her Majesty's accession a notable proportion of the Chelsea people were occupied upon the land in nursery grounds, or in fields belonging to the farms which yet remained on its west and north. I have seen a man who distinctly recollected fields of Wheat growing almost within sight of its venerable church. Numerous as the Chelsea nurseries were at one period, it does not seem to have possessed one of the older London nurseries, such as existed at Kensington, Hoxton, Mile End and elsewhere. We read, however, of the cultivation of Asparagus, Artichokes, Melons, and other choice vegetables on part of the Five Fields, also near the neat houses along the river's bank below Chelsea, in the reign of Charles II., and one old author moralises over the gardener's skill in producing such delicacies from very unpromising soil.

The modern King's Road, especially the busiest part of it—say between Sloane Square and the Vestry Hall—offers a great contrast to the road as it was in its nursery days, when the London citizen considered an evening visit to Chelsea, by land or water, quite exhilarating after the day's work. At first it really was a royal road, the name applying, seemingly, to the whole line from Pimlico to Fulham. In crossing what was known commonly as the "Five Fields," now occupied by Eaton Square and other goodly squares or terraces, land chiefly waste, it took a very circuitous course to the stream called the Westbourne, which was at one time crossed only by a plank bridge, which Chelsea gardeners of that date found rather inconvenient when conveying manure or produce, but there existed a stone bridge farther down.

During the reign of George III., that portion of the Five Fields which had been covered with Heath or Furze was brought under cultivation, and nursery grounds were in existence near the eastern end of the King's Road. The nursery of Messrs. Allen & Rogers, nearly opposite the modern Coleshill Street, was in existence till 1832, and Mr. Jenkins, who afterwards owned a nursery north of London, the site of which is now occupied by the grounds of the Royal Botanic Society, cultivated about 15 acres early in this century between this road and Knightsbridge, somewhere about Belgrave Square probably. After Eaton Square was laid out, the central garden on the north side was Tuck's nursery for some years; afterwards this was removed to an historic spot in Sloane Street, opposite Cadogan Place, still open, and known as Cadogan Gardens, but which, by error, Loudon calls "Sloane Square." "This square," writes he, "is very ingeniously laid out as a botanic garden, the inhabitants have an opportunity of blending amusement with instruction. The plot being a parallelogram or long square, and the ground low, Repton proposed to form it into a valley, the walks to be winding, and the trees grouped, but his advice was not complied with." It was actually laid out, I believe, by the famous William Curtis, towards the end of last century; then it belonged to Salisbury for a time, who called it an American nursery. It was many years in the hands of the Tucks, and was only closed about 1882, being still preserved as an open space.

When we come to what is properly Sloane Square (familiar by its railway station) we have a place which was certainly not garden-like at the time the King's Road Nurseries were flourishing, but which is described as being then bare and uninviting; true there

was a Sloane Square Nursery, so-called, but this was not in the square, though near, and was the first of the series along the King's Road, situate on the south side. Part of its site is built on, part is absorbed in the grounds of the Royal Military Asylum. This was also known as an American nursery, and associated with John Fraser, nurseryman, botanist, and tourist, who, like many a young man, was interested in the study of horticulture through working in the Chelsea Physic Garden. He was one of Forsyth's friends, and made several journeys to the United States. He was successful in bringing home plants, such as Pines, Magnolias, and Azaleas, for which he got good prices, and opened his nursery in 1795. Twice he went to St. Petersburg, carrying rarities to the Empress Catherine. Afterwards he made other visits to America and the West Indies, bringing from Cuba the Silver-leaved Palm, *Corypha miraguana*, the leaves of which his sister wove into hats and bonnets. But the nursery did not prosper, Fraser's health failed, and at his decease in 1811 it had to be closed. On the same side, a little further on, was Whiteland's Nursery; it had a narrow frontage, and was named, not after a person, but a locality, for Chelsea owns both its "Whitelands" and its "Blacklands." This disappeared about 1835, having nothing particular in its history.

But the leading nurseries of the King's Road were the not rival, but friendly, establishments long connected with the names of Colvill and Davey. It is a curious fact that in 1784 a young gentleman, advertising for a wife, offered, besides himself, as a special inducement, that her home would be amidst the floral beauties of the King's Road. The two nurseries were separated by a pleasant lane called Butterfly Alley, a "resort of sauntering swells," says one author. It is said to have abounded with butterflies sometimes, and I suspect the old gardeners did not look after the caterpillars sufficiently. Views of Old Chelsea show the picturesque cottage of Colvill's manager, at the corner of Blacklands Lane, where a draper's shop stands now. Colvill had a number of conservatories and hothouses, the principal one, next the King's Road, being devoted to Geraniums and Pelargoniums, of which he is stated to have had nearly five hundred real or supposed varieties. Many of these were figured in Sweet's work on the Geraniaceæ. Bulbs, especially of the genus *Amaryllis*, were another of his specialties. When Colvill died the nursery passed into the hands of Messrs. Adam & Durban, and was closed about 1835. Davey was also a large grower of flowers and a well-known Chelsea man. Before his nursery was closed part of the ground was surrendered to the Messrs. Downing for the erection of their floorcloth factory. He died in 1833. Next to his, on the north side, was Moore's nursery, of small extent, which was afterwards shifted to the south side of the road, near Radnor Street. Not far distant from the rear of these nurseries were the extensive nursery and market garden grounds of the Catleughs, between Chelsea and Knightsbridge, which have been gradually cut up and built upon. Amongst other productions, Pine Apples in notable quantities were raised here for London markets at a period when the import of fruit from abroad was but small. The last articles I saw growing upon the remnant of Catleugh's nursery land were Rhubarb and Cabbages!

Returning to the King's Road, east of Moore's, and extending southward nearly to the river, was the nursery of Little. The name still appears there, but the small space left is now a private garden. He had orchards of some extent, raising a good deal of fruit, also vegetables; and his trade in flowers continued till a few years ago. At last the place was chiefly noted for evergreens and "Chinese Moss." Rolle's Nursery was next, between the "Six Bells Tavern" and "Cook's Ground," the site is crossed by the modern Oakley Street, leading to Albert Bridge. He was one of the numerous French gardeners in Chelsea, who, with other Huguenots, founded a small chapel for themselves, which yet remains. Down Cook's Ground there was the nursery of Pamplin, or properly Pamphillon, some of whose descendants still live in the locality. Nearly opposite the present Vestry Hall were the buildings belonging to Hutchins' market gardens, north of the King's Road, covering many acres towards Brompton. Beyond Church Street, on the south of the road, was the nursery of Shepard, including the gardens of old Danvers House, and bounded eastward by the road to Battersea Bridge. Faulkner, in his history of Chelsea, refers to this Shepard as one who did much to popularise the Italian style of horticulture, of which his own garden, as figured by Kip, was an excellent illustration. Chelsea Vale, a fragment of bygone Chelsea, that remained rural till quite recently, had in it the nursery of Mr. Tebbutt, which is now closed, it was not one of the older. In 1879 he obtained prizes for Harrison's Giant Musk and Lilies of the Valley grown here.

Still proceeding, and passing the spot where once was Cremorne House and Gardens, we come upon a part of the King's Road, from which all floral glories have not departed. Terraces of the new style cover the ground opposite on the north, where Shailer's

Nursery was. He was said to be the introducer of the Moss Rose, about which one has doubts—at least, he sold them largely. He transferred the place to Dennis, who had been the possessor of a nursery at Pimlico, near the "Compasses," and was known as the producer of several good Pelargoniums. He relinquished business in 1860. Adjoining Shailer's nursery, a plot of ground was taken by Mr. E. Weeks about 1816, upon which he established a nursery, and took out a patent subsequently for improvements in horticultural buildings. A fine series of houses was erected in 1845, subsequently Mr. W. Bull gave it a new impetus, as an establishment for new and rare plants. A leading horticulturist of the Georgian era, Joseph Knight, opened his nursery on the north side in 1808, and with his nephew (Mr. Perry) he made a speciality of American plants. It was taken by Messrs. Veitch in 1853. To the south is the Ashburnham Nursery of Wimsett & Co. —J. R. S. C.



EVENTS OF THE WEEK.—Though there are no exhibitions to attract horticulturists during the forthcoming week, two meetings will be held at Anderton's Hotel, Fleet Street, at which goodly numbers will doubtless be present. The first of these will be the annual general meeting of the Royal Gardeners' Orphan Fund, on Friday, the 21st inst., at two o'clock; and the second, a similar meeting of the National Chrysanthemum Society, on Monday, the 24th inst., at seven o'clock.

— WEATHER IN LONDON.—At last a change has come over the atmospheric conditions of the metropolis. For some time we have had decidedly open weather, but on Sunday evening slight showers fell in some of the southern suburbs, the air at the same time becoming a little colder. On Monday evening there was a slight frost. The air throughout Tuesday remained cool, though it was a little foggy the whole of the day. On Wednesday a return to the mild weather was experienced, and the sun shone brightly throughout the day.

— WEATHER IN THE NORTH.—Rain fell on the evening of the 11th inst., and the night was windy and wet. Since then, till Tuesday, 18th, the weather has been uniformly dry, calm, and dull, with an occasional flash of sunshine. The afternoons of Sunday and Monday were cold, with N.W. wind. Vegetation is far advanced for the season. Pastures are fresh, Snowdrops, Crocuses, Primroses, and Hepaticas in bloom, and Gorse just bursting. Growers of Auriculas dread unfavourable weather ahead, the plants are advancing so rapidly. Roses on walls have growths of several inches.—B. D., *S. Perthshire*.

— SHIRLEY GARDENERS' ASSOCIATION.—The monthly meeting was held on the 7th inst., at the Parish Room, Southampton, when Mr. B. Ladhams, F.R.H.S., presided over a very good attendance of the members. Mr. T. Jones, The Gardens, Terrace House, Southampton, gave an exhaustive paper on the winter and summer treatment of Peach trees, dealing with all the points of culture, and also with some of the diseases of the tree. There was an animated discussion after the reading. A vote of thanks was accorded to Mr. Jones at the close of the meeting.

— HORTICULTURAL CLUB.—The twenty-first annual dinner took place on Tuesday evening last, and was in every respect a most successful one. There was a large attendance of members and visitors. The chair was occupied by Sir J. D. T. Llewelyn, Bt., M.P., and amongst those present were Mr. Harry J. Veitch (Vice-Chairman of the Club), Messrs. G. Paul, C. E. Shca, T. Francis Rivers, J. H. Veitch, Nicholson, Herbst, Bunyard, Turner, Monro, Assbee, Kay, Hogg, Becker (of Jersey), C. Pearson, Laing, and Crowley. The tables had been handsomely decorated with flowers and plants from Messrs. Veitch and Sons, and with a collection of Roses from Messrs. Paul & Son. The dessert—consisting of Pine Apples kindly sent by Mr. Assbee, Grapes by Mr. Geo. Monro, Apples and home-grown Oranges by Mr. T. Francis Rivers, and Apples by Messrs. Bunyard & Co.—gave the table a rich and pleasing appearance, and was much appreciated by the members. Mr. Geo. Bunyard had kindly provided for a selection of vocal and instrumental music, which was given during the evening, including solos on the concertina by Mr. Harry Turner. Mr. A. F. Barron was the special guest of the Club, and his health was proposed by Mr. Harry J. Veitch, and was very warmly received by the company.

— LACHENALIAS AND VIOLETS.—Mr. W. Allan has sent us from Gunton Park Gardens some admirably grown spikes of *Lachnalia Nelsoni*, also the finest Violets we have seen this year. The spikes above mentioned contain an average of twenty flowers, all fresh; and the Violets, *Marie Louise*, *Neapolitan*, and *Comte de Brazza*, are much above the average size of those now sold in London.

— CARNATION URIAH PIKE.—I should like to ask your correspondent "D." (page 118), or any other Carnation grower, if the above is found to flower freely during the winter, say from November until the end of February. It has been stated by some persons to be a winter flowering variety, but so far as my experience goes I cannot say this much for it. If other growers' experience should differ from this, and they are successful in flowering this grand Carnation at the time stated, the mode of procedure would doubtless be welcome to more than one reader of the Journal, as if it can only be cultivated to flower freely in the way that *Miss Joliffe* or *La Neige* will do, it will hold its own for some time to come.—INQUIRER.

— CHINESE PRIMULAS.—Varieties of Chinese Primulas are now extremely numerous, and many of them are of such merit that would warrant the surmise that perfection had as nearly as possible been attained to. But this has been thought so many times, and of so many flowers, that we do not suppose experimenters will cease their work at any time, for the possibilities of the future can never be known. Amongst the introducers of superb varieties of *Primula sinensis* must be mentioned Messrs. J. Veitch & Sons, Royal Exotic Nurseries, Chelsea, who have favoured us with specimens of some of their leading forms. The flowers combine richness and purity of colouration, with size, form, and substance, all attributes that must be possessed by the Primula of to-day. Amidst such excellence it is difficult to particularise, but of those before us we should say Chelsea Scarlet, Chelsea Rose, Chelsea Blue, Gigantic Red and White, with the firm's Double Red and Double Rose were of the choicest, though the others are sufficiently good to merit their inclusion in every collection.

— INSTABILITY IN PLANT NOMENCLATURE.—I am pleased to see the note on the above on page 139 of the Journal. Only recently I observed, in turning to the Saxifrages in the Kew "Hand List of Herbaceous Plants," that *S. Burseriana* was given as *S. burseriana*. This is rather inconsistent, as on the same page *S. Boydi* appears with the capital letter, and in the line beneath giving its parentage we have *S. Burseriana* x *aretoides*, *Burseriana* having here the capital letter. Were this only an exceptional thing it would be of less consequence; but if we turn to the Campanulas, we have on page 91 *C. Grosseii* and *C. Hendersoni*, while on the same page are *C. morettiana* and *C. portenschlagiana*, these having the small letter. Many others occur, and the value of a most useful and convenient little book, which I have had bound as worthy of something better than a paper cover, is to some extent lessened. We have so much good work from Kew that finding fault with anything emanating from that source is an unwelcome task.—S. ARNOTT.

— WOMEN GARDENERS AT KEW.—We have from time to time received several more or less—generally less—humorous communications on the above subject, but they were not quite suitable for publication. They had reference mainly to the attire alleged to be imposed by the authorities, though some of the letters were not untinged with cynicism, not to say jealousy, of the intrusion of the fair sex into the domain of gardening. As to the question of dress, we observe in a daily paper what appears to be an inspired paragraph, to the effect that the Kew authorities do not oblige the two "women gardeners" to wear trousers, but "only knickerbockers" when "at work," as skirts might damage valuable plants in the crowded houses. It is also stated that the "women" are provided with a dressing room, lest they should be seen unsuitably attired when going to and from their work. Those of our correspondents who have betrayed just a tinge of jealousy, may perhaps derive a modicum of comfort from the thought that dressing rooms for workers are not likely to become general in private gardens, and perhaps not in plant nurseries for some little time to come; while if they were it would imply a great increase in knickers, and if these, as may be fairly presumed, were "tailor made," there would at least be some compensation to the masculine community, and there is no law to prevent out of work "men" gardeners (of which there are sadly too many) changing their occupation, and making clothes for the women. We advise our troubled friends to keep calm. Kew must be up to date, and things find their level, even by the possible appointment at some future date of a Directress of the Royal Gardens. In one respect she would have a difficult task to perform—namely, in increasing the confusion in authoritative (?) plant nomenclature.

— WHOLESALE FRUIT AND POTATO SALESMEN AND GROWERS BENEVOLENT ASSOCIATION.—We are informed that Mr. George Monro of Covent Garden has consented to preside at the annual festival dinner in aid of the funds of the Wholesale Fruit and Potato Salesmen and Growers' Benevolent Association, to be held on March 10th, at the Holborn Restaurant.

— GARDENING APPOINTMENTS.—Mr. W. Heath, for eleven years gardener to Sir F. Peel, Hampton Manor, Warwickshire, has been appointed head gardener to Lieut.-General The Hon. Somerset J. G. Calthorpe, Woodlands Vale, Ryde, Isle of Wight. Mr. C. Puddephatt, for two years head gardener to Sir Anthony Cope, Bart., Bramshill Park, Winchfield, Hants, has been appointed head gardener to G. Lake, Esq., J.P., Bushey House, Watford, Herts.

— PROTECT YOUR HARDY PLANTS.—Now is the time when your plants are likely to suffer. When the days get a little warmer at noon buds swell, sap moves faster, and growth commences; all of this is natural. The danger lies in the sudden coming of a cold spell after it; this is very injurious to many things. See that whatever covering, as mulching, put on in November or December is still in place, that the shelter belts and screens are in good order, and that plants layered and covered with earth over winter are nowhere bare and exposed to sunshine or wind.—A. C.

— CHESTER HORTICULTURAL SHOW AND FÊTE.—Just as we were preparing for press we received the schedule of prizes offered for competition in the ancient city mentioned, on July 15th of the present year. It embraces 113 classes in the various sections. The chief prizes are £25, £15, £10, and £5 for groups of plants arranged for effect. For groups of Orchids the prizes are £20, £15, and £10; while similar amounts are offered for twelve stove and greenhouse plants in bloom. A class for cut flowers will arrest attention—namely, "Display of Cut Flowers arranged in any conceivable design, or combination of designs, at the discretion of the exhibitor, in a space 12 feet by 5 feet. A few foliage plants may be used." The prizes in this class are £10, £7, £5, and £3. An aggregate display of considerable interest will be expected. The chief class for fruit stipulates for eighteen dishes, prizes £15, £10, and £5; while amounts of £5, £3, and £2 are provided for twelve "varieties" of vegetables. Unless the Committee mean that twelve varieties of Potatoes or any other kind of vegetable are admissible, the governing term is not happily chosen. We presume it will be safer to stage twelve distinct "kinds" for winning the prizes. We perceive also a notification that "A member of the Council of the Royal Horticultural Society has kindly placed at the disposal of the deputation a silver cup value ten guineas, to be awarded at this Show, to mark not only a new departure of the R.H.S. in visiting the provinces, but the fact that the first invitation to do so was received from Chester." The show should be very large and diversified in view of the provision made by the Committee, of which J. Wynne Ffoulkes, Esq., Crypt Chambers, Chester, is the Honorary Secretary.

— FRUIT PROSPECTS.—It is very satisfactory to note that whilst the winter so far has been wonderfully open, yet the comparative dryness which has prevailed since the year opened, and now of some seven weeks' duration, has greatly helped to check undue or premature growth on the part of deciduous trees and bushes, so that buds seem comparatively dormant. So long as they remain in that condition there is not much to fear should sharp weather and keen biting winds be prevalent in March. Fervently I hope such may not be the case, indeed the long period of winter dryness rather indicates a change presently to abundant rains, and with these a higher temperature that may provoke quick bud activity. That we have great need for the rain there can be no doubt, and if falling copiously in March, unaccompanied by snow or frost, much good may be done. A wet April is a disaster, because it is then impossible to secure a good seed-sowing time. It is very possible that fear of such a contingency may induce many to sow seed early whilst the soil is in such admirable condition. The prospects of a fairly good fruit season seem therefore to be very dependent on the nature of the weather of the next six weeks. The trees are in many places very promising, although Pears show more so than Apples, the latter as a rule having borne heavily last year. Still there is the prospect of being a very fair Apple bloom all the same. Plums may not be so very heavy, but Cherries will, no doubt, as buds show, bloom luxuriantly. As to bush fruits and Raspberries, they are all right. Strawberry plants will tell their own tale a little later, but crowns seem to be very plump. So far at present in relation to the year's fruit crop there is nothing to be discouraged about.—A. D.

— **DEATH OF A NONOGENARIAN.**—It is rare that we have to announce the death of a nurseryman of such an advanced age as Mr. Joseph Cheal, the founder of the well known Lowfield Nurseries of Messrs. J. Cheal & Sons, near Crawley. For the past few years visitors to those nurseries marvelled at the activity of body and brightness of mind of the genial old gentleman who received them so pleasantly, and many there must be who will mourn his loss. Mr. Cheal was not more diligent in business than he was honourable in his dealings with all; and, as is well known, his sons are like unto him. The deceased was born with the century, and was thus in his ninety-sixth year. He passed away on the morning of the 18th inst., an upright man, whose end was peace.

— **MR. ALFRED OUTRAM.**—We understand that this well-known traveller of Messrs. Sutton & Sons, Reading, sailed in the "Campania" on Saturday last for New York. Mr. Outram is no stranger in America, and we shall be surprised if he fail to convince his many friends there that we have a few good things in the old country not unworthy of the attention of our kinsmen in the great Republic of the West. We hope Mr. Outram will find the weather warmer when he reaches New York than it was early in the present week, when the Fahrenheit thermometer registered 4° below zero; also, we trust he will have a good time and a safe return in the course of a few months, as he will be wanted at our summer shows. Good "specimens" are always looked for there.

— **FERTILISING PEACH BLOSSOM.**—When looking through Mr. J. Walker's fine Peach houses at Ham Common recently, I found in the earlier ones the trees both trained under the glass and in pots in full bloom. It was very interesting to observe the rapidity with which the young men armed with long sticks, on the points of which were small balls of rabbit fur, ran over the bloom, carrying pollen in profuse abundance to the pistils of the flowers. Sometimes a sharp shake or rap on the stems of the trees suffices, much depending on the nature of the weather. No doubt this, after all trifling trouble, is amply repaid, for the crops produced are generally heavy. From one large trained tree of Crimson Galande, last year no less than 470 fine fruits were marketed—a good return. Alexander here blooms very well, and drops few flowers.—**GROWER.**

— **AXMINSTER GARDENERS' IMPROVEMENT SOCIETY.**—A highly interesting lecture on "Parks and Gardens" was given recently, under the auspices of Axminster Gardeners' Mutual Improvement Society. The chair was occupied by the Rector (Rev. T. Newman), and the lecturer was Mr. F. W. Meyer, landscape gardener to Messrs. R. Veitch & Son Exeter. A powerful magic lantern, supplied by the County Council was well manipulated by Mr. Wilmott. Mr. Meyer exhibited about sixty capital slides, illustrating the progress of the art of landscape gardening from the earliest times up to date. Mr. Meyer also exhibited a number of views of parks and gardens of his own designing, such as the parks of Devonport, Truro, and Poole, and also some slides of beautiful rock gardens constructed by him at Newton Abbot and many other places. A hearty vote of thanks to the lecturer concluded a most enjoyable evening.

— **THE MILD WEATHER.**—Now that the winter is so far advanced the chances in favour of anything like a prolonged spell of frost are, of course, becoming very remote. With half of February and the whole of March before us, however, there is still time for a good deal of very unpleasant weather. So far as the meteorological records go, they seem to show that a mild winter is as often as not followed by cold weather in the early spring. During the past twenty-five years there have been, excluding the present, eight winters in which the mean temperature in London has been considerably in excess of the average. In four of these cases the weather of the ensuing March was mild, and in one of them—viz., in 1882, very mild. In one other case it was of a fairly normal character, while in the three remaining instances it was decidedly cold. The coldest March experienced over England during the whole of the past twenty-five years occurred at the close of a winter which was quite as mild, if not milder, than the present season. This was in 1883, when northerly winds and snow showers were experienced throughout nearly the whole month, the thermometer in London sinking at least 5° below the freezing point on no fewer than ten nights. In three years out of the past twenty-five—viz., in 1877, 1883, and 1889, the lowest temperature of the whole year occurred in London in the month of March. By far the lowest March temperature recorded in the metropolis during the past fifty years was on the 4th of the month in 1890, when the thermometer fell to 15°, but in the same year a reading 1° lower than this was registered both in November and December.—("Daily News.")

— **WAKEFIELD PAXTON SOCIETY.**—The lecturer at the meeting of this Society on Saturday, 8th inst., was Mr. George Parker, who lectured splendidly on "Frost Crystals." Having briefly indicated the atmospheric and other conditions requisite to the successful acquisition and photographing of frost crystals, the lecturer proceeded to exhibit some seventy fine photo views of snow crystals and frost crystals, principally the latter, taken from garden shrubbery and window-panes of small outhouses. It is impossible to describe in the space of a brief paragraph the delicacy, richness, and beauty which the lens and the lantern, acting in concert, revealed. Very hearty thanks were given to Mr. Parkin for the treat afforded.

— **CARTER'S "PRACTICAL GARDENER."**—Yet another edition of this work, making the sixteenth—adequate evidence of its popularity—has just been published. Nor can there be any surprise at this, seeing that so much and such good and varied matter is given for a shilling. Carter's "Practical Gardener" is exactly what its title indicates, as it is clear that the several articles on the many diverse subjects are the productions of practical men, brought into line by the Editor of the work—Mr. E. J. Beale, F.L.S. Practically every aspect of gardening is treated, including an admirable chapter on lawns. Flower, vegetable, and fruit culture receive full attention, while the pages are adorned with many beautiful photogravures. The work comprises over 200 large pages, and, while not less useful, is decidedly more attractive than all previous issues. It will be equally serviceable to gardeners and amateurs.

— **RAISING ONIONS UNDER GLASS.**—Just for the purpose of testing the capacities of the cottager or allotment holder to raise Onion plants under glass when he has no frame or greenhouse, but merely a makeshift such as I have, I obtained a box 4 inches deep, filled it half full of the best soil I could furnish, made across the centre a division, and then sowed seed of two varieties. That was done on January 20th. The box was stood on the ground in the warmest position in my back yard and covered over with a large pane of glass; now, on February 15th, I observe the seed germinating rapidly, so that there is every prospect of there being a strong and plentiful plant. This much satisfies me, that there can be no difficulty on the part of anyone who has a box and a glass cover at disposal, to raise Onion plants quite early in that way. The plants I have now coming up should be fully a month earlier than will be those from outdoor sowings.—**AMATEUR.**

— **THE EXTENSION OF THE VINE.**—In Mr. Scott's lecture to the Wakefield Paxton Society on the above subject, noted on page 140, I have wondered if he included among his notable Vines one in his own county—namely, the White Tokay, at Harewood, near Leeds, which certainly is a good example of this system of training. This Vine in 1891 yielded and finished well considerably over 300 bunches of Grapes. It then filled a lean-to house fully 60 feet long and upwards of 20 wide. It was planted in the front of the house and an arm taken horizontally each way, from which other rods had been trained up to the rafters. Young wood was annually laid in, and Mr. Fowler, then gardener at Harewood, must have found this mode of treatment most suitable, and without doubt had his reasons for so doing, having superintended its management over thirty years. A stone slab on the back wall of the house states that the Vine was planted by Mr. Chapman in 1783. It must, therefore, be one of the oldest, if not the largest white Vine in existence.—**T. H. BOLTON.**

— **CULTIVATION OF HEATH LAND.**—Having had some experience in Surrey with a barren peat soil I am prepared to say, in reply to "J. A." (page 145), that it may be made suitable for the cultivation of vegetables, Strawberries, and flowers. I had at command an abundant supply of stable manure, and by a free use of that, fairly good crops were grown; even the sandy portion of the ground may be rendered fertile. Near to where I at present live are hundreds of acres of sandy ground that is made to yield fair crops. Peat possesses the property of retaining moisture, which in some degree makes up for other deficiencies. If sand lies in a deep layer it also never becomes dry. I think "J. A.," by the liberal use of manure, ought to grow the vegetables and plants he names. He will find slag flour, which is comparatively cheap—less than £2 per ton—of great value. Its phosphoric acid is in a fairly soluble condition, and there is also lime and iron in its composition in a form available as plant food. By all means keep the manures, whether chemical or farmyard, near the surface. I may add that Potatoes and Carrots succeed well on peat, also Strawberries grown on the annual system. I never had any difficulty with Lettuce; French Beans, on the other hand, fell a prey to red spider. I am doubtful whether Violets will escape the latter; but Narcissi, Lily of the Valley, bulbous Irises, and Tulips will be sure to succeed even in the sandiest portions provided there is no stint of manure.—**B.**

HEPATICAS.

AMONG the many floral gems of early spring few have been admired for so long a series of years as the Hepatica or Noble Liverwort, as it was called by our ancestors. It is an "old-fashioned" flower, having been in cultivation for more than 320 years, and claimed in olden times the admiration of highborn dames and humble housewives, besides that of the sterner sex who followed the gentle art of gardening as zealously as we do at the close of the nineteenth century. Nor can we wonder at this when we see fine clumps of the varieties of the common Hepatica sparkling in the sunshine of February and March, pleasing all by their flowers of purest white, blue, or purple-blue, and ranging from almost ruby-red of *H. triloba splendens* to the softest flesh colour. When we see such a picture of floral beauty we are surprised at the vagaries of fashion which, at one time, left the Hepatica to the old-fashioned garden, where the old, old flowers were cherished. Happily this may be said to have passed away, and the renaissance which has come has brought an ever increasing admiration of such plants as these.

Botanically speaking the Hepatica is an *Anemone* belonging to the *Ranunculaceæ*, and should be spoken of as *A. Hepatica*, and what we know as *Hepatica angulosa* as *Anemone angulosa*; but, although modern botanists apparently agree with Linnaeus in this classification, popular usage is too firmly fixed to be readily altered, and the subjects of this article are likely to remain "Hepaticas" for many long years. Thus we shall speak of them here, feeling satisfied that there is less risk of confusion in so doing than in adopting the more scientific name.

The noblest of all the Hepaticas is *H. angulosa*, a well-flowered plant, of which is here figured (fig. 24). This is a very beautiful Liverwort, with fine five-lobed leaves, and large, handsome, sky-blue flowers, sometimes over 2 inches across, with black anthers, and a tuft of yellow styles. There appears to be a little conflict of authority regarding the native habitat of this species, "Paxton's Botanical Dictionary" giving it as North America, in which it is followed by the 1886 edition of the "Cottage Gardeners' Dictionary," and a generally reliable work on hardy flowers, Nicholson's "Dictionary of Gardening," and a few other works state the habitat to be Transylvania, and the "Kew Handbook" gives it as "Eastern Europe." Through the kind offices of Mr. J. N. Gerard of Elizabeth, New Jersey, U.S.A., the writer ascertained that *H. angulosa* does not occur in the United States; and through the same gentleman communication was opened with Mr. Macoun of the Canadian Geological Survey, and Mr. Goldie of Guelph, Ontario, both of whom are thoroughly acquainted with the flora of the older provinces of the Dominion, and both agree that the Angled Hepatica is not to be found there.

One is thus forced to the conclusion that Transylvania is the place of origin of the plant, and this is corroborated by a conversation the writer had a year or two ago with Mr. Lindsay, the able Curator of the Edinburgh Botanic Gardens, who said they had a plant named *H. transylvanica*, which appeared the same as *H. angulosa*.

So far as the growing of *H. angulosa* is concerned it presents no difficulty in ordinary gardens, preferring an eastern exposure and a sandy loam enriched by the addition of a little cow manure. It is to be regretted, however, that in the majority of gardens this Hepatica is a shy bloomer, a good sized clump frequently giving only a few flowers. In order to overcome this some growers have divided the plants severely, but this drastic course has proved ineffectual, and the shyness appears due to the want of some constituent in the soil. There is some difference of opinion as to the best time for planting *H. angulosa*, but my experience is that it may be planted most successfully in spring when the plants have just finished flowering. When autumn planting is followed Hepaticas are frequently lifted out of the soil by frost, and they are thus weakened, and sometimes altogether lost unless timely attention is given to pressing them into the ground. *H. angulosa major* is a fine variety with larger flowers of lighter colour, but the writer has no knowledge of the appearance of either white or red varieties, although it is probable that these exist in the native habitat of the plants.

While the Angled Hepatica has the defect of shy blooming in most gardens, its congener, the common Hepatica in its several varieties, presents no such drawback. With scarcely an exception it grows and flowers freely in gardens where it obtains a moderately light soil, and will, if left alone, with an occasional top-dressing, increase in size and beauty from year to year. It is a native of the Northern Hemisphere, being widely distributed over continental Europe and North America. It is possible that it may be also distributed over Northern Asia, as it is said to be largely cultivated by the Japanese, who are reported to possess some fine varieties. These may have originally come from North America, but it is highly probable that they are either indigenous to Japan, or from the adjacent continent. There are many interesting and beautiful varieties of the ordinary Hepatica *triloba* or *Anemone Hepatica*, among which may be included what is known as *H. acutiloba*, which comes from North America and has prettily formed leaves. It does not seem a fixed species, as in its native woods it and the ordinary leaved Hepatica run into each other. Another form is *H. variabilis*, with marbled leaves, but this is not recognised at Kew as a species, being ranked as a variety of *A. Hepatica*. Both *acutiloba* and *variabilis* vary in colour of flower.

The ordinary single blue Hepatica is recognised as the typical form, but by means of sports and seedlings an increasing number of varieties have arisen, all of which can only be briefly mentioned. The double

blue, or more correctly speaking, the several double blue varieties, are very pretty and still too rare, owing to their less accommodating nature. These are beautiful little flowers like buttons, and mostly beautifully imbricated. There are several single pink or red varieties, one named *Splendens* being particularly vivid in colour, and a great beauty. The double pink Hepatica is a well-known favourite, and large clumps are very attractive. There is also a pretty purple variety known as *H. Barlowi*, and by some thought to be a distinct species. There are also a few white varieties, a well marked distinction between two of these being that one has white and the other pink anthers. A pretty blush white variety is also to be obtained. There is a double white which is exceedingly rare, and almost unobtainable. This variety has long been spoken of, and for years the writer believed it to be a fabulous plant, although thinking it possible that such a variety could be produced. He has, however, received incontestable evidence that the flower exists, although rare and difficult to grow.

The cultural requirements of the common Hepatica and its varieties are similar to those of *H. angulosa*, so that nothing further may be added on this point, but a few lines on the raising of seedlings may be of service.

By raising seedling Hepaticas there is practically no limit to the shades which may be obtained in the range of colours included among these plants, besides the possibility of obtaining the coveted double white. The seeds should be carefully saved when ready to fall, and may either be sown immediately or kept until later. They may be sown in the open ground, but as they do not germinate for some months, and are liable to be disturbed and brought to the surface by worms, it will be found desirable to sow them in boxes, in which the young plants can remain for a year or two. The seeds, if sown when ripe or up till August, should germinate in spring, and many will flower the third year. Some cover the boxes with a piece of slate laid on the soil, but this is not at all necessary, and can be dispensed with.

The writer thinks it better to sow thinly, and allow the plants to remain in the boxes, with a little top-dressing, until they have made two years' growth, when the bottom and sides of the box are removed and the young plants placed in the border without further disturbance. In my garden a large number of young plants are coming into flower, and promise to yield some interesting results. It is to seedling raising we must look for improvements in these beautiful flowers, improvements which are quite within our reach, and which would greatly enrich the beauty of our gardens. Much interesting matter, including a good deal about the double white Hepatica, remains, but space will not permit of further enlarging upon these long favourite flowers, the beauty of which is worthy of being more largely recognised.—S. ARNOTT.

MODERN GRAPE GROWING—ESTIMATE OF VARIETIES.

(Continued from page 99.)

SOME of my younger readers, to whom I may not be well known, will perhaps think that because I do not place Muscat of Alexandria far above all other Grapes for quality that I have not succeeded particularly well with this variety. If such is the case I would refer them to the *Journal of Horticulture* for November 3rd, 1881, where the present esteemed assistant editor says of the Muscats under my charge, "It is the finest sight of the kind I have seen," and ventures an opinion "that a similar example of culture had not been achieved in the time in the Queen's dominions."

Since that time great progress has been made with the cultivation of Muscats, and this Grape, which was once thought difficult to manage, has been found, where the houses and appliances are favourable, to be easier to bring to perfection than is the Black Hamburg. I grant that the Black Hamburg is one of the easiest Grapes to grow if one only aims at moderate quality, but real perfection is quite another thing, and is more frequently seen in almost any other variety, including Muscat of Alexandria. I consider a house of Black Hamburg with a good crop of bunches averaging 3 lbs., made up of berries $3\frac{1}{2}$ inches in circumference, and as black as Sloes, shows a greater amount of cultural skill than does a perfectly coloured crop of Muscats of the same dimensions; but either of them forms a very pretty picture, and well repays the cultivator for rising with the sun on bright summer mornings.

As for the so-called varieties of Muscat of Alexandria, I have never been able to detect any difference, although I have frequently had the supposed peculiarities pointed out to me. One gentleman in particular was very enthusiastic when he detected a Vine under my care which he was certain was Bowood Muscat. He could tell the difference at a glance as soon as he entered the house, and pointed out the distinctive features in berry, bunch, and general growth. Asked if I was convinced, the reply was, "Not exactly, for all the plants were raised by myself from one particular Vine."

It would hardly be correct to say that I consider the quality of Muscat of Alexandria inferior to that of the Black Hamburg; that to a great extent must be a matter of individual taste; but I do say that it is a greater feat to grow a house of Black Hamburg perfect in every way than it is to grow a similar one of Muscat of Alexandria. Personally I have several times had a house of Muscats which I was proud of, but not only have I never grown, but I have never seen, a house of Hamburgs which would have satisfied me.

Sometimes at the smaller shows there is a class for the best two bunches of Grapes, irrespective of colour, and I have been acting with judges who were inclined to pass over fairly good bunches of Black

Hamburgh in favour of very ordinary bunches of Muscat, simply because they were Muscats. This I would never agree to, and I must always protest against such a decision. When two or more varieties of nearly equal merit are in competition the judges should know what

What is grown as Canon Hall Muscat at the present day is a very distinct variety, but it is not Canon Hall, which has a long shoulderless bunch of perfectly round berries and is a very bad variety to set. I have frequently seen bunches of it 15 to 18 inches long with only a few berries



FIG. 24.—HEPATICA ANGULOSA.

constitutes perfection in each, and should give their highest award to the exhibit which is the nearest to perfection, whether it be Black Hamburgh, Muscat of Alexandria, Duke of Buccleuch, or Madresfield Court.

at each end, and the only perfect pair of bunches I remember were shown at the Regent's Park about 1868 by Mr. Drewitt of The Denbies, Dorking. There was a Vine of it at Elvaston Castle a few years ago, but I cannot say if Mr. Goodacre still grows it. The variety grown

under this name by Mr. Kay of Finchley and others has oval-shaped berries, and is easier to cultivate than the true Cannon Hall. I consider it to be Muscat Escholata.

Duke of Buccleuch is a very handsome Sweetwater Grape of excellent quality, but unfortunately it is too delicate for rough handling and travelling, therefore can never become a fruit for the million. It requires a house to itself, and where it is appreciated and can be used locally it will amply repay for special treatment. It was raised by the late Mr. William Thomson, and is well grown at Clovenfords.

Buckland Sweetwater is a very showy Grape when well done, and is frequently seen in good condition at the August shows; but its flavour only keeps good about a fortnight after it is ripe, and this variety should never count for much if exhibited after August.

Foster's Seedling, on the other hand, is less showy, but it is possible to keep it good till Christmas, and its flavour never deteriorates till decay commences. Mrs. Pearson has been well shown by Mr. Kirk of Alloa and Mr. Ward of Longford, and in the condition they showed it it rivalled in appearance the best samples of Muscat of Alexandria, but it requires a long season and a great amount of heat. Many people fail altogether to bring it to anything like perfection.—WM. TAYLOR.

(To be continued.)

YOUNG GARDENERS.

THEIR HOURS AND HABITATIONS.

THE above heading was really the gist of Mr. W. Bardney's able article on page 122, and doubtless many of the juniors would be gratified to see that someone was taking up the cudgels on their behalf. Mr. Bardney speaks from experience, and states that, "generally speaking, gardeners make longer hours than agricultural labourers." This is doubtless the truth, because when Hodge has finished his long day's labour he shoulders his basket, with the gratification that he has done, and is at liberty to follow his own devices till next morning. But is this the case with the young gardener? Experience tells me not; he is always liable to be called out after the work hours proper are over, in order to fulfil one of the many duties connected with his calling, which are too well known to need any mention here—in short, a gardener's time, whether he be head or subordinate, is never really his own, and, as Mr. Bardney states, Sunday is very often the hardest day in the week.

Everyone is ready to admit that the condition of young gardeners has been greatly improved during recent years, but when we look round and note the much better state of the entire working population, then we must confess that there is nothing remarkable about the advancement of the gardening fraternity in this direction—in fact, we are still a long way behind the times. A weekly half-holiday is the rule now rather than the exception, whereas many will remember when artisans were the only class of workers who were allowed this privilege; now we find men of all trades and professions enjoying their weekly half-holiday.

Combination and legislation, aided to some extent by agitation, have been the means of bringing this about, yet with a few bright exceptions we find gardeners still making six, and too often seven, full days a week.

Who is to blame for this, and to whom must we look for redress? may be the two chief questions asked. Mr. Bardney asserts that head gardeners might do more to bring about the weekly half-holiday, and to improve the condition of the young men generally. In many instances he is doubtless right, for in spite of the improvements which have admittedly been made, there is still a certain amount of conservatism remaining amongst gardeners, particularly those of what is known as the old school. A feeling still appears to exist, that having gone through a certain amount of hardships themselves, it is only part of the training necessary to the making of a good gardener, therefore such a thing as a Saturday half-holiday is only to be considered as something preposterous. Others may, perhaps, urge that in many places owing to agricultural depression and other causes expenses have been lowered and staffs reduced to such an extent that it is impossible to get through the work now and on these grounds object to the half-holiday. Certainly there is something in this, but not sufficient for a good argument, and even under such circumstances we venture to assert that there would be nothing lost by granting this weekly privilege.

Others will not even entertain the idea, and regard it as being altogether impracticable without even giving it any consideration. Those who thus dismiss the question are obviously not in a position to judge fairly. In all cases that have come under my notice where the change has been adopted the results have been so satisfactory that those in authority have no reason for regret, while the young men are much more ready to give extra labour when circumstances call for it. We do not mean to assert that gardeners in all cases are in the position to bring about this desired change, but in many instances they could if they would use their influence for the benefit of those under them.

I have a case before me as I write of an establishment where the young men petitioned the employer for the Saturday half-holiday. The gentleman in question was willing to grant the request, provided the head gardener raised no objection. It is gratifying to know that he did not, and the men's wish was complied with. Had, however, this gardener possessed any of the scruples already mentioned, the chances are that the men would now have been working till at least four o'clock on Saturdays.

Whilst admitting all this there are also numerous establishments where any suggestions of this kind would be met with a direct rebuff on

part of the employer, otherwise the gardener would be only too glad for those under him to cease work at noon on Saturday. How the difficulty in such cases is to be overcome is a matter for argument. No efforts however, should be lost in keeping the matter before the notice of those who employ a staff of gardeners. Time alone will probably bring about the half-holiday as a custom, and the success of the experiment in one establishment will lead to its adoption in another.

I quite agree with Mr. Bardney that a general crusade in favour of the half-holiday would be a step in the right direction, and if brought before the notice of employers in a proper light, the proposition in the majority of cases would receive favourable consideration. Mr. Bardney advocates the institution of cricket and football clubs, and here again, I am of like opinion. The adage of "All work and no play makes Jack a dull boy" applies to young gardeners as well as to any other class, and how can the monotony of continual labour be broken better than by healthy recreation? I feel sure that if something were done in this direction to enliven the somewhat humdrum existence of the surroundings of country houses, the privileges would be appreciated without being violated.

Mr. Bardney deals at some length with the management of Sunday work, and this reminds me how many establishments there are where the young men receive no pay for Sunday duty. I know of no argument that merits such a system, which is by no means uncommon, as I am acquainted with many places where young men are obliged to be on duty all day on Sunday without any thought being given to extra pay. Payment for Sunday work is certainly more general than it used to be, and I hope the day is not far distant when it will be a rule without an exception. In most occupations time and half is paid for Sunday work; why then should gardeners be excepted, and not receive at least a full day's pay for the seventh day's work?

I recollect an instance of a young gardener urging somewhat strongly the justice of Sunday pay to his chief, who, as the argument will show, belonged to the old school. The reply the young man obtained was to the effect that young gardeners should show their love for their work by giving the seventh day gratis. This is all very well from a sentimental point of view, but I think the day (if ever it existed) when work was done for the sake of love has gone by, and men show greater affection for labour when they know there is hard cash at the end of it.

It may be urged that as a counterbalance young gardeners' pay is not stopped for loss of time. Granted; but the justice of Sunday payment still remains the same, as my experience of both life is that young gardeners work sufficient overtime during the week to make up for the holidays they obtain, and even now I have an instance before me of a well-known garden where no payment is made for Sunday work, and yet the men are stopped for all lost time. Is "Hodge" any worse off than this? No, I think not, as young gardeners' remuneration is not sufficiently high as to allow for much reduction if there is to be anything left for himself.

Referring to habitations; here, again, all will readily admit that great improvements have been made during recent years, especially if we pay a visit to such well arranged bothies as those of Sandringham, Eaton Hall, and other well known places. Admitting all this, there is yet, however, a side as seamy as was the case half a century ago, and in numerous so-called first-class establishments the young gardeners are not nearly so comfortably housed as the hunter in the squire's stable. Where the fault lies I am not going to say; perhaps it is the gardener, perhaps the employer, but in either case it is a discredit, and head gardeners should, at any rate, acquaint their superiors with the state of affairs, and urge the desirability of improvement.

Judging from the position and style of structure noticeable in many bothies the chief aim has been to stick them in some out-of-the-way corner, as if such necessities as proper light and ventilation were not reckoned worthy of consideration. A lean-to "shed" along the back wall of a vinery is, or was, a favourite site, in close proximity to the sulphury fumes arising from the stokehole next door, and a back-yard view from the window opening on to a rubbish heap. I know of a bothy similarly built, barely high enough for an averaged-sized man to stand up in. The floor is below the level of the yard outside, and in times of heavy rains the comfort of the inhabitants is hampered by the inflow of the surface water; and yet the proprietor objects to any alterations, as it would spoil the old-fashioned appearance.

In another well-known establishment is a bedroom away from the living apartment, approached by a rickety iron ladder, and each night when the young men retire to rest they undergo an experience something similar to that of a railway porter as he carries his lamp to the top of a signal post. The room is low, with the light bad, and the ventilation worse; and yet four or five men are huddled together in this unhealthy apartment, while there are scores of other rooms in the establishment much more suitable standing empty. These are but a few solitary instances in the many, and when speaking of the habitations of young men as "having been" but a little better than hovels, Mr. Bardney would have spoke just as truthfully if he had said "are." There still remains much to be done before the position of young gardeners is what it should be, and as an important step in the right direction I would urge on all in authority to make them comfortable, pay for Sunday work, and grant a Saturday afternoon holiday.—G. H. H.

I WAS pleased to see Mr. Bardney (on page 122) contending for shorter hours on behalf of under gardeners. Surely the time has come when the old system of working from 6 A.M. to 6 P.M., with four o'clock

on Saturday, alternate Sundays on duty, and night duty, should in some measure be remedied.

Our system is one that gives general satisfaction to all concerned, the hours being 7 A.M. on Mondays, with 6.30 on other mornings, to 5.30, and 4 P.M. on Saturday, thus enabling the men to be clear for Sunday. As to duties: we have two on together on Sundays until evening. Then one takes night duty for the week, which comes every four weeks, there being four in the bothy, thus giving the men as much liberty as possible. To give half a day on Saturday would not be possible, as in the summer it is generally the busiest day in the week, both for inside and outside men, and every exertion is required to finish by 4 P.M. Mr. Bardney puts in a plea for the young men in bothies which, I hope, will strike home to all who have such dilapidated hovels as depicted by him. Very often they are shut in some corner on the north side of a wall, or connected with potting sheds or stokeholes.

I think in many cases much could be done by head gardeners to alter this state of things. I had it to contend with when I came to my present situation, but after bringing the case before my employer, he at once decided the men should have comfortable apartments, including bath room with hot and cold water, and the aspect is full south, which makes it always pleasant.—T. B., Leeds.



ISLE OF WIGHT ROSE SOCIETY.

THE report of the Committee of this Society for the year 1895 has just come to hand and shows a satisfactory state of affairs, while the balance-sheet proves that there is a small cash balance in hand. If arrangements can be made the show will this year be held at Ryde on Thursday, June 18th. We hope the exhibition will be favoured with fine weather.

THE WHITE BATH ROSE AND THE CRESTED MOSS.

I AM gratified to learn that "H. D." has not been displeased by my criticism of his interesting article on "Roses for the Garden." I had no intention whatever of contradicting his assertion that the White Bath Moss Rose, which he so justly eulogises, was admirably adapted by Nature for growing in bush form. I do not doubt that when left alone its natural tendency is to assume this shape. It was raised by Salter at Clifton, near Bristol, in 1810. I have an idea that its constitution is somewhat delicate, having lost a strong plant of it during the winter of 1893. Since that period I have been careful to place the White Bath in strongly sheltered situations. Like other members of the same fascinating family of Roses it requires close pruning and generous nourishment, under which conditions, if the soil be congenial (for it is somewhat exacting in this direction also), it is certain to do well. It is the most attractive of all the Moss Roses, quite eclipsing the White Perpetual Moss, which also flowers with great freedom here. There is, indeed, no French variety which equals this exquisite Rose of English extraction. I hope your correspondent is equally familiar with the beauty of the Crested Moss, a unique variation from the Pink Provence, which, as I learn from "The Rose Garden," was originally found growing on the walls of a convent near Berne in Switzerland, in 1827. The buds are highly picturesque, being heavily mossed.—DAVID R. WILLIAMSON.

NOTES ON ROSES.

OUTDOORS.

WITH such a prolonged and grand time for planting, very little should remain undone in private gardens. Growth ripened very steadily and efficiently in the autumn, and with no frost of importance up to the end of January, there once more seems bright prospects before us. When we remember the splendid and unexpected way in which our Roses came through the severe trial at this time last season, recovering themselves so well that 1895 was by no means a bad Rose season, the present well matured wood on all varieties can scarcely be seriously injured now that we are so far advanced.

I would recommend that very little pruning be done yet, although past experience has convinced me that the date this is done is by no means so important as many suggest. Looking over the budded stocks, I find them far better than usual. Last season those on the standard Briars were much crippled, but this year such varieties as Comtesse de Nadaillac, Cleopatra, and Princess of Wales, are in really first-class condition. In a number of Horace Vernet, also, there is not a single failure, and this is a good sign as regards other varieties. Fortune's Yellow with several of the more tender climbers suffered terribly last year, but at present their wood is perfectly sound, the long growths made late in the summer ripened steadily and well. Where the ground was not mulched earlier this is a good time, as roots will be more or less on the move by the time the soluble parts of organic matter are washed down. If we leave this till later in the spring much waste occurs from evaporation in the drier atmosphere.

Referring once more to pruning. Our climbers and strong growers

need next to none of this, and we may, therefore, finish our work with wall Roses at the same time as Peaches and similar fruits. All we have to do is to cut away as much as possible of the old and sear wood without sacrificing growth made last summer. No grower will deny that we get the best blooms and in greater number from such growth, and it is merely a question of covering our space as far as possible with the same. It is also often advisable to complete all necessary work upon walls and fences before the narrow borders receive their spring attention.

The delightful article on page 94 from "H. D." is some of the pleasantest Rose chat we have had for some time. I can endorse the whole of it, and would especially recommend the Penzance Briars for arches and arbours. Lady Penzance has a drooping habit, and all of them may be brought into service for arbours. Not only do we get some unique colours, but there is the always-pleasant perfume from the foliage, and perhaps of all early summer blooming Roses none can surpass the Hybrid Sweet Briar in profusion. The best of the newer varieties as seen at various exhibitions are Green Mantle and Jeannie Deans. The former has a distinct shade of pale green throughout the blossom, and the latter is a crimson semi-double. I hope your correspondent will give us more notes, especially on that much-abused class, the Hybrid Teas; his impressions of Caroline Testout, Viscountess Folkestone, and others, for example.

INDOORS.

Here we now have a goodly number of Roses in bloom. Early plants of Maréchal Niel are coming on rapidly; in fact, all under glass have not only responded to the influence of sun, but were already inclined to push earlier than usual owing to the mild winter. Grafted Roses of this season need careful attention at present, and do not want too hot a temperature until the scion is well set to the stock. Some thousands are now out of the cases and on an open bench. These will receive a shift in course of a few days, just as soon, in short, as the callus has hardened a little. Even the latest of our pot Roses now need to be brought under cover and advanced steadily, or we shall have bloom on warm sheltered walls with us too close on their heels. If bright weather prevail, there will be need of more care in the avoidance of mildew by keeping a regular temperature. I do not mean we should be so precise as to keep between 55° and 60°, but avoid those sudden rises caused by sun heat and fire heat combined. A very little of either causes an astonishing rise in the temperature when in combination, and on bright days, unless a keen wind prevails, we need scarcely any fire heat.

Last season I had much better success with Teas and Noisettes grafted, and kept growing very steadily after a junction was well secured, then planted out on a prepared border in the open, than with those budded the previous summer. This has been my practice during all severe winters, and the invariable success has encouraged me to make it annual. All of our more delicate Teas are readily and safely increased in this way, and I venture to say with even less trouble than in budding in their case. So many of them do not produce any quantity of good buds, but we can get many fairly well ripened shoulders and eyes by the end of November. Comtesse de Nadaillac, Madame de Watteville, Princess of Wales, Cleopatra, and others are here alluded to.

A slight fumigation carried out on consecutive evenings, and also supplemented by a weak insecticide through the syringe, will keep down all insect foes, and do no harm to tender young growth. The secret is to use a weak solution early, not waiting until one's plants are fairly infested. It is a singular fact that so many amateurs will pass over a few stray insects under the impression it would be better to delay remedial measures until the plants are more affected. Kill the first invaders, and not only keep your foliage clean and healthy, but avoid the necessity for stronger measures in the near future, which would probably cripple your plants, in addition to the harm done by an increased number of insects, not only feeding on them but choking the pores at the same time.—ROSARIAN.

USEFUL GARDEN ROSES.

CONTINUING my remarks on this subject from page 94 I will first deal with Noisettes. These are by no means a numerous section, but some of the varieties rank among the sweetest and most floriferous of the Rose family. Unfortunately a few of the most charming varieties are too tender for arches, except in sheltered positions; they are, however, well adapted for planting against walls. Aimée Vibert is one of the hardiest and oldest, being a true Noisette, and is thoroughly suitable for arches or pillars, its full white flowers are borne in large bunches; Cornelia Kosh, yellow, and Deschamps, bright carmine, form a capital pair, hardy enough for arches and pillars.

That general favourite, Celine Forestier, is often regarded as somewhat tender. My experience does not bear this out, for here in the Midlands bushes in the open have during the last two severe winters remained uninjured by frost, this, too, without the slightest protection being given except the usual covering over the soil. I can therefore confidently recommend it as a good pillar Rose. Bouquet d'Or, with its flowers of fine form, in which yellow and coppery shades of colour are so exquisitely blended, is one of the best, and should be given a wall in a warm sunny position. Ophir and Rêve d'Or, both of which have yellow and coppery tints, are free bloomers and excellent for cutting with long shoots. Notwithstanding the many supposed improvements on William Allen Richardson, I question if the flowers of any Noisette are more generally admired. Its weak point is that in severe winters

much of the wood is killed by frost—even when given the shelter of a wall—unless additional protection is also afforded. L'Idéal is unique in its colouring, the peculiar admixture of copper rose and gold vary considerably in different soils. It is a strong grower, appears to be hardier than W. A. Richardson, and for these reasons should be grown by all. Lamarque (sulphur yellow) and Madame Pierre Cochet (deep orange yellow) have very great merit.

HYBRID PERPETUALS.

This large section certainly includes many of the hardiest and showiest of Roses. When well grown their massive, brilliant flowers lend a wealth of brightness and fragrance to our gardens. They may lack the exquisite delicacy of colouring or the mildly delicious perfume of the Teas, but they have no rivals in point of attractiveness. Many of the stronger-growing varieties succeed well as pillar Roses, but we have now such a fine selection for this purpose in other sections that I fancy the Hybrid Perpetuals will in the future be little used for covering pillars. Their attractions are, moreover, much better displayed when growing on bushes, standards, and half-standards. The latter is a desirable form of growing hardy Roses which deserves extension, in the way of "dot plants" on lawns, and among beds of dwarfs. When planting beds of Roses some systematic method ought to be adopted. In far too many instances beds have been filled with an indiscriminate admixture of varieties, with little or no regard to the colour of the flowers or the habit of growth.

For small or moderate-sized beds no plan is better than that of planting one variety in each; for large beds an effective arrangement is to plant varieties having different shades of the same colour, placing the strongest growers in the centre and the weaker ones around them. Another method to adopt is to plant a mass of one variety in the centre and edge with a broad band of another. To give a simple illustration we will say a mass of that fine variety, Baroness Rothschild, edged with a broad band of La France or Mdme. Gabriel Luizet, or Mrs. J. Laing for the centre, with Queen of Queens around it. Other beds might be arranged with a row of two or three varieties, and an edging of miniature Roses. A plan of arrangement on these or similar lines not only adds to the general effect, but is also a great aid to cultural success, as the weaker growing varieties can be so disposed as to prevent their being injured by stronger ones. In order to favour this method of arranging in gradation of colour I will give a list of a few of the best varieties in each shade of colour.

SELECT VARIETIES.

White or Pale Coloured.—Baronne de Maynard, pure white; Boule de Neige, white, flowers of medium size, habit good, a very free and continuous bloomer; Capitaine Christy, one of the best in the section, flowers large, of a delicate flesh colour, deeper in the centre, succeeds splendidly as a standard; Olio, this grand new variety, sent out by Messrs. W. Paul & Son, is one of the very best of this type, the fine globular shaped flowers are of a beautiful rosy pink shade, the colour being paler round the edges of the petals, it is a good grower, and should be in every collection; Comtesse de Serenye, pale rose, a wonderfully free bloomer and strong yet sturdy grower; Mabel Morrison, white in summer, tinted pink during the autumn; Margaret Dickson, white, flesh centre, distinct and handsome; Merveille de Lyon, very large, satin rose when the flower is in a half open stage, afterwards fading to white, strong yet compact grower; Silver Queen, blush shaded rosy pink, beautifully cupped, quite distinct. Unfortunately we have not yet obtained a true yellow H.P.; Gloire Lyonnaise is the nearest approach to one, the flowers being white tinted with yellow.

Pink.—Baronne de Rothschild, too well known to need description; Bessie Johnson, light blush, large and sweet; Duchesse de Vallombrosa, flesh colour shaded with rose, foliage stout and leathery; Garden Favourite, bright pink, very attractive and an abundant bloomer, should be grown in quantity; Julie Louvais, flesh coloured, very large; La France, well known to be one of the finest in form and a very free flowerer; Madame Gabriel Luizet, pale pink, large, very sweet; Mrs. J. Laing, soft pink of fine form, a thoroughly good doer, and remarkable bloomer, one of those good plants of which we can scarcely have too many; Queen of Queens, pink blush edges, a most attractive Rose in colour, and good in every way.

Notwithstanding the intimation of freedom conveyed to me in the editorial note (page 94), my natural modesty prevents me from following it in too literal a sense, for fear that the numerous readers of the Journal should think that "the Queen of Flowers," though queen she be, should in these democratic days have too much attention. The remaining varieties which I wish to draw attention to must therefore be set down with but little comment.

Rose Colour.—Anna Alexieff, Caroline Testout, Charles Dickens, Duchess of Albany, Edward Morren, Heinrich Schultheis, John Hopper, Madame Eugénie Verdier, M. Marie Finger, Marquise de Castellane, Paul Neyron, and Pride of Waltham.

Light Crimson.—Beauty of Waltham, Camille de Bernardin, Charles Lamb, Crimson Bedder, Dupuy Jamain, Etienne Levet, Général Jacqueminot, Hippolyte Jamain, Mdle. Annie Wood, M. Marie Rady, Marie Baumann, Paul Verdier, Salamander (a fine new variety of brilliant colour and free growth), Sénateur Vaisse, and Ulrich Brunner.

Dark Crimson.—A. K. Williams, Baron Haussmann, Charles Lefebvre, Comtesse d'Oxford, Dr. Andry, Duke of Connaught, Duke of Teck, Earl of Dufferin, Earl of Pembroke, Eclair, Exposition de Brie, Fisher Holmes, Louis Van Houtte, Maréchal Vaillant, Madame Ferdinand

Jamain, Madame Victor Verdier, Mrs. H. Turner, Star of Waltham, and Victor Hugo.

Maroon and Purple.—Abel Carrière, Black Prince, Grand Mogul, Prince Camille de Rohan, Reynolds Hole, Xavier Olibo, and Pierre Notting.

The Teas I must leave for another paper.—H. D.

THE FLORISTS' TULIP.

[By JAS. W. BENTLEY, Hon. Secretary of the Royal National Tulip Society.]

DESCRIPTIVE CATALOGUE. (Continued from page 585, last vol.)

ICILIA (H. Goldham).—Rose. A second-rate variety; flamed with bright red on a good white ground. A seedling from Portia × Mary.

IMPERATRIX FLORUM (Maddocks).—Bybloemen. A dark feathered variety raised at Walworth over 100 years ago, and for many years esteemed highly, but now obsolete.

INCOMPARABLE (H. Goldham).—Bybloemen. A second-rate flamed variety, raised from King of Purples × Chancellor.

INCOMPARABLES. — An obsolete, arbitrary sub-division of the bybloemens originating in Holland. It is supposed that a Dutch florist named Verport raised about a century ago a batch of superior bybloemen breeders, to which he gave the name of Incomparable. As they broke they received other distinguishing names in addition, consequently we have Incomparable Surpassant, Incomparable Verport, &c. Another lot of seedlings were called Voerhelm's Incomparables. As a class the Incomparables were of a dwarf habit, and rather rosy in colour. They are now of no importance.

INDEX (Dixon).—Bybloemen. Shape good; base pure. A delicately feathered variety, once in good repute, but never seen now.

INDISPENSABLE (Headly).—Bybloemen. Shape good; base pure. A dark bybloemen, considered good thirty years ago, both as a feathered and a flamed flower; but, notwithstanding its name, we now manage to do without it.

INDUSTRY (Lea).—Rose. Shape rather long; base pure. As a breeder this variety should be grown for its intense cherry-scarlet colour, although its faulty shape prevents its being first rate. As a feathered flower it is often good, the colour being much brighter than Heroine, although the markings are not so beautifully pencilled. It is not a constant flower, and is of no value when flamed. Raised about forty years ago from Lady Lilford × Heroine by a fine old Lancashire grower, Mr. William Lea of Bedford Leigh.

INKERMAN (Headly).—Bybloemen. Dwarf; shape good, base pure. A heavily feathered flower, still grown to a small extent, but seldom seen in good condition now.

ISABEL (H. Goldham).—Rose. A second-rate variety, flamed with bright rose. A seedling from Portia × Arlette.

ISABELLA (Parker).—Rose. Shape good; pure. Best as a breeder, although rather dull in colour. It has made no reputation as a rectified flower. Raised by Mr. Parker from his own Queen of England, I believe; and although by no means a new flower still rather scarce.

JAMES GOODAIR (G. Hardwick).—Bizarre. Shape good; base pure. A good red-brown breeder, which breaks badly; apparently a shy grower, as it is not in general cultivation, although it has been out a good many years.

JAMES M'INTOSH (Hepworth).—Bizarre. Shape good; base pure. A dark feathered variety with a rich yellow ground. Being a shy grower it is scarce, and although at its best an excellent flower is very apt to bloom short of feathering. Broken about twelve years ago by Mr. Barlow, and named in honour of the late Mr. M'Intosh of Weybridge, who for many years was a generous supporter of the Tulip Society.

JAMES WILD (Walker).—Bizarre. Shape fair. A dull brown breeder, of no particular value in any state.

JANETTE (Dymock).—Bybloemen. Shape long; base pure; petals narrow and pointed. A feathered variety of no particular merit. There is a breeder grown under this name, but in my opinion quite distinct from the feathered Janette. It is good in shape, rosy purple in colour, with a peculiar varnished appearance, and altogether an excellent late-blooming variety.

JEANETTE (H. Goldham).—Rose. Dwarf; shape good; base requires bleaching. A flamed variety resembling Annie M'Gregor in colour, but the flaming is generally scratchy and unsatisfactory. A seedling from Catalani × Lady Lilford.

JEMIMA (Forman).—Bybloemen. Certificated as a feathered variety in 1875, but has apparently gone out of cultivation. Raised by Mr. Charles Forman, of Chellaston.

JOAN OF ARC (Naylor).—Rose. Tall; shape fair. An obsolete dark feathered rose, first broken in 1845.

JOE MILLER (Hepworth).—Bybloemen. A dark heavily flamed variety of no particular merit, and a shy grower.

JOHN BROOK (C. Gill).—Bizarre. Shape good; base rather greasy. A brown breeder worth growing but for its doubtful base. Although it breaks both feathered and flamed it is of little value, the markings lacking distinctness.

JOHN CRANSTON (Johnson).—Bybloemen. Shape good; base pure. A boldly flamed variety, unfortunately rendered worthless by the presence of yellow streaks, which cannot be bleached, in the white ground.

JOHN DALTON (Hepworth).—Bybloemen. Shape fair; base pure. A dark flamed variety, generally so heavy in colour as to be worthless. Syn., Hepworth's 102/61.

J. D. HEXTALL (Storer).—Bizarre. Shape good; base pure. A red flamed variety with a rich yellow ground, and although a bold handsome bed flower it is rarely well marked enough to appear at a show.

J. F. WOOD (Willison).—Bizarre. Shape good; base pure. A dark feathered bizarre that has belied its early promise, being now almost invariably so heavy in colour as to be worthless. Named about forty years ago in honour of that true florist, Mr. J. F. Wood, for many years editor of the "Midland Florist." Syn., Fred Wood.

JOHN HART (Dymock).—Bybloemen. Shape good; base pure. A first-rate feathered variety, the colour being deep purple on a pure white ground. It strongly resembles the same raiser's King of the Universe, and can make a good flamed flower also.

JOHN HEAP (Walker).—Bizarre. Shape fair; base pure. A yellow-brown breeder of good constitution. The outer petals often curl outwards at the tips, spoiling the symmetry of the flower. As a broken flower it has no reputation. Syn., Walker's Bizarre.

JOHN HENRY (Hepworth).—Bybloemen. Shape good; base pure. A shy growing variety generally seen in breeder state, but it formerly had the reputation of being a fine feathered flower and was figured in the "Florist" about twenty years ago in that state. A seedling from a fine strain of Louis XVI. Syn., Hepworth's 100/61.

JOHN KEMBLE (Goldham).—Bybloemen. Shape long; base pure. A dark plated feathered, and also a flamed variety which has apparently gone out of cultivation.

JOHN LINTON (Headly).—Bybloemen. Shape rather long; base opens yellow, but bleaches. A feathered variety much like Adonis, from which it is a seedling. Certificated in 1860 and not much grown now.

JOHN MILLS (Storer).—Bizarre. Shape longish; base rather greasy. It is a good flower when feathered, the marking being brown and very correctly laid on. As a flamed flower it is quite worthless, having greenish stains at the base of the beam. Being a shy grower it is not common. Syn., Mr. Mills.

JOHN MOODY (Moody).—Bizarre. Shape good; base pure. A fine and correct feathered variety, the feathering being black on a rich golden ground. Unfortunately small in size, and a very poor grower. Introduced to notice lately by Mr. E. H. Schofield, and named by him in honour of its raiser, the late Mr. John Moody, a well-known Yorkshire grower.

JOHN MORLEY (Battersby).—Bizarre. Shape good; base pure. A feathered variety, broken by Mr. John Atkin, of Stapleford, Notts. A fine red feathered variety when in character, but unfortunately very inconstant. Worthless when flamed.

JOHN PEACOCK (Slater).—Bybloemen. Shape good; base pure. In great repute twenty-five years ago as a feathered flower, but now never seen. It was, I believe, much like Groom's William Bentley.

JOHN RATCLIFFE (Ratcliffe).—Bizarre. Shape fair; base pure. A good dark feathered variety, with a clear lemon-yellow ground. The feathering is nicely pencilled, but scarcely heavy enough. Being rather inconstant, and also a shy grower, the variety is scarce. Raised by Mr. J. Ratcliffe of Bedford Leigh; first bloomed and broken by a well-known grower, Mr. Richard Yates.

JOHN SANDERSON (Willison).—Bizarre. Shape longish; base pure. A feathered variety, now I fear lost, but much liked twenty years ago, the feathering being rich brown on a clear lemon ground.

JOHN SMITH (Storer).—Bizarre. Shape poor, as the petals stand apart from each other; base pure. Only known to me as a breeder which has a fine base and is rich brown in colour; but its faulty shape is a serious drawback.

JOSEPH LAKIN (Storer).—Bizarre, dwarf. Shape good; base pure. A promising feathered variety with a rich yellow ground. One of Mr. Storer's latest seedlings. There is much confusion at present amongst the later Storer seedlings, and this variety may have other names.

JOSEPHUS (Thurstan).—Bybloemen. Shape good; base pure. A very dark flamed variety, having a heavy beam. A promising sort, still undistributed.

J. R. SCRIVEN (Lawrence).—Bizarre. Shape fair; base pure. A flamed bizarre of no particular value, as although often well marked the colours are dull and unattractive.

JULIA FARNESE (Slater).—Rose. Shape not good, being longish and loose; base pure. A heavily feathered variety; colour rather dark and plated; early in bloom. The filaments are often stained blue, and the sun should be kept from the flower to prevent this fault. Not by any means a first-rate flower; but, as feathered roses are at present so scarce, it is often useful as an exhibition flower. It is about forty years old.

JULIET (Willison).—Rose. Shape fair; base pure. Generally seen now as a breeder, which is rather dull in colour, and, therefore, not of much value. Formerly it had some reputation both in feathered and flamed states.

JULIET (GOLDHAM).—Rose. Shape good; base pure. A flamed variety no longer grown.

JUNO (Slater).—Bybloemen. Shape long and narrow; base pure. A shy growing, feathered variety of little value, as the feathering does not appear on the lower half of the petals.

JUPITER (Naylor).—Rose. Shape long; base cloudy and filaments stained. An obsolete, well marked scarlet flamed variety.

(To be continued.)

LEUCOIUM CARPATHICUM.

AS Snowflakes are always popular, the one under the above name, staged by Mr. T. S. Ware, Hale Farm Nurseries, Tottenham, at the meeting of the Royal Horticultural Society, held on Tuesday, the 11th inst., attracted a considerable amount of attention. It is apparently a form of the well-known *L. vernum*, but the flowers are larger and decidedly more beautiful. The blooms are borne on stalks about 9 inches in height, and are invariably seen in pairs, which is certainly a recommendation to its cultivation. The flowers are pure white, the segments each being tipped with bright green. Several of the flowers measure about an inch across, and as they open well the plainly perceptible yellow anthers add their share in the charm



FIG 25.—LEUCOIUM CARPATHICUM.

of this *Leucoium*. The illustration (fig. 25) will convey to our readers an idea of the size and form of the inflorescence.

As the Journal of 13th inst. in the report of the exhibition of the Royal Horticultural Society states, on page 147, that *Leucoium carpathicum* received a first-class certificate, and says it is "a very handsome Snowflake with pure green-tipped petals," you may perhaps find space for a note on the name. From the description given in your report, and in that of a contemporary, the Snowflake certificated is that I mentioned in the Journal of 6th inst. (page 114) as *L. vernum* var. *Vagneri*. My authority for this is Mr. J. G. Baker, who, in his "Handbook of Amaryllideæ" (page 19) says that (*Leucoium*) *Erinosma carpathicum* "is a form with the perianth segments tipped with yellow instead of green," and that "var. *Vagneri*, Stapf, is a tall, robust form with two flowers." As I had read of a yellow-spotted Snowflake with two flowers, and Mr. Baker did not mention the colour of the spots on

L. Vagneri, I communicated with that eminent authority, who most kindly replied that the variety Vagneri had green spots. *L. carpathicum* was figured in Curtis's "Botanical Magazine," pl. 1993, which illustration is referred to by Mr. Baker in describing it. I have not the volume, but from references to the plate the colour of the spots is golden yellow. I am aware there is some confusion about the yellow-spotted Snowflakes, and strongly suspect that there are two forms, but have been unable to verify my suspicion. Perhaps someone can give us a full description of *L. Vagneri* as first separated from the others. I submit, however, that the Snowflake which has been certificated is Vagner's one, and not *L. carpathicum*.—S. ARNOTT.

THE ORANGE IN CALIFORNIA.

THE most conservative estimates put the present Orange crop of Southern California at 3,400,000 boxes, and places the market value of the same at about 4,200,000 dols. Some believe the value will run over 5,000,000 dols. before the season is passed. The disaster from freezing weather that overcame the ripening Oranges of Florida in December a year ago, and the severe injury by frost to the Spanish and Mediterranean crops a few weeks later, left the California Oranges almost supreme in the American markets. The present yield of the fruit in Southern California is two-thirds of a full production, but it is the cleanest, best developed, and most satisfactory lot of Oranges grown in this region in several years.

A BIG "JUMP."

The effects of the demand for California fruit was seen at once, the "New York Tribune" says, upon the receipt of the news of the freeze in Florida, for prices for all varieties of Oranges not only jumped 25 per cent., but have since been steadily advancing. This is the best year for money making by the Orange growers since 1890, and the proverbially "jubilant farmer," who is always read about in days of big crops and fine prices, is not to be compared with the Southern California Orange and Lemon grower these days.

Many a grower here who has run behind in his business for two years, and incurred debts, will be made easy and comfortable by the sale of his product this season. The big seedless variety are bringing 1.80 dols. per box on the trees, and there are reasons to believe they may go to 2 dols. per box. Seedlings are worth 1.40 dols. a box, and Mediterranean Sweets are selling right along at 1.35 dols. a box on the trees. At such prices an Orange grove that is well kept and carefully and methodically irrigated will easily bring from 350 dols. to 450 dols. an acre. A few older groves will bring over 575 dols. an acre. The crop on the Rorer Orchard of 60 acres, in Pomona Valley, was sold on the trees a few days ago for 33,500 dols. That is the best sale reported here this season.

BEST TIME TO SELL.

The season of picking, packing, and shipping the Oranges in Southern California opens about February 1st, and will continue until early in June. Experience has taught the Orange growers that the best prices for their fruit are to be had late in the season. A saying here is to the effect that the nearer to the Fourth of July one sells his Orange yield the better price will be had. The older horticulturists, therefore, welcome the cool nights in January and February, provided the mercury does not get too near the point of 30° above zero, because it retards the ripening of the crop, and brings it nearer the summer limit. So far as frost and rains are concerned, this winter has been an ideal season for the Southern California Orange growers. At no time has the mercury been below 35° above zero, and there has been an abundance of rain and sunshine at just the right times.

FRUIT AND BLOOM.

It often happens that the ripe, luscious fruit is still ungathered when the trees are all abloom for the next year's crop, and then the scene is, as someone has expressed it, "a general combustion of beauty." But an Orange grove, with its evergreen trees, compact and symmetrical, is always pleasing to the artistic sense, each season having a charm of its own. To this attractive picture may be added the closely cut Cypress hedges, the broad avenues and well-kept drives, shaded with the stately Eucalyptus, flowering Magnolia, Palms, and the graceful Pepper, with its feathery, drooping foliage and red berries, and the mountains always for a background. No wonder it is that one who sees an orchard for the first time becomes enchanted and is seized with an uncontrollable desire to possess one of his own.

DOES NOT LIKE THE SEA.

The Orange does not thrive in proximity to the ocean. The excess of moisture and the fogs at certain seasons of the year produce a fungus on the trees and fruit that detracts from the fine, healthy appearance of both, and necessitates either the extra expense of cleaning or placing the fruit on the market at reduced prices. For this reason the otherwise suitable lands of Santa Barbara and Ventura Counties, as well as parts of Orange, Los Angeles, and San Diego Counties, are better adapted to Lemons, which do not so much object to a moist atmosphere. Los Angeles and Riverside stand at the head of the Orange-growing counties. The trees are especially free from smut and fruit pests, and are remarkably bright and healthy in appearance; consequently its fruit is quoted at higher prices than that grown elsewhere. The section, of which Riverside is the centre, has far the most extensive area devoted to Oranges, and is growing more rapidly than any other. Pomona carried

away the prize at the last State Citrus Fair, held at Los Angeles, and Riverside proudly displays three gold medals awarded at the New Orleans World's Fair for the best collection of Oranges from California, the best collection from any part of the United States, and for the best exhibit from any part of the world.



NATIONAL CHRYSANTHEMUM SOCIETY.

THE annual general meeting of the members of the above Society will take place at Anderton's Hotel, Fleet Street, E.C., on Monday, February 24th next, at seven o'clock, to receive the annual report and statement of accounts, and to transact any business pertaining to the annual general meeting of members.

A MEETING of the General Committee of this Society was held on Monday evening last at Anderton's Hotel, the chair being taken by Mr. B. Wynne. After the confirmation of the minutes of the previous meeting, and the reading of correspondence of a purely formal nature, the Secretary presented a report from the Schedule Sub-Committee dealing with the details of the Society's shows to be held in September, October, and December next. Mr. A. C. Taylor was heartily thanked for the audit of varieties staged at the last November show, prepared by him, and which will be incorporated in the schedule of prizes for 1896. Certain alterations in the Floral Committee's regulations were made, the principal one being that in future three blooms of a variety must be submitted when novelties are shown for first-class certificates. Mr. Beckett also called attention to the fact that it was advisable that no variety should be certificated that bore the name of a flower already certificated. Several speakers expressed their views on the subject, and it was resolved that it be an instruction to the Floral Committee to refrain from certificating any variety already in general cultivation under the same name, but the exhibitor to be allowed to rename his variety in such a case.

The meetings of the General Committee for the ensuing year are fixed as under:—August 24th, September 28th, October 26th, November 23rd, and December 14th. Those of the Floral Committee September 1st and 23rd, October 6th and 28th, November 9th, 18th, and 25th, and December 1st and 9th.

The draft report on the work of the past year was then approved, and will be presented to the annual general meeting on Monday next. The financial statement was next submitted for approval, and promises to be a very satisfactory one from all points of view. Thirty new members and Fellows were elected, and the unusually large number of twelve local societies were admitted in affiliation. Votes of thanks to the Chairman and Secretary brought the meeting, which was largely attended, to a close.

BATLEY CHRYSANTHEMUM SOCIETY—ANNUAL DINNER.

ON Saturday evening, the 15th inst., about 100 ladies and gentlemen sat down to a substantial repast in the Masonic Hall, Batley. Judging from the status of the guests, and the enthusiasm displayed by those present, there is no doubt of the fact that the above organisation has secured the confidence of its subscribers and the inhabitants of Batley. The President of the Society occupied the post of honour, and he was ably supported by the Mayor (Alderman B. P. Nettleton), the ex-Mayor (Alderman Jos. Wilson), the Town Clerk (J. H. Crask, Esq.), Dr. E. Deane (President of the Chamber of Commerce). Representatives were also present from the Batley Technical School, and the Bradford, Birstal, Rothwell, and Wakefield Paxton Societies.

After the Royal toasts had been duly honoured, the President gave a short *résumé* of the career, success, and future prospects of the Society. Through the generosity of the leading inhabitants of the town they were in the unique position of being able to offer a substantial prize list, in addition to seven valuable challenge cups. Their last show was second to none in the West Riding. The quality of the exhibits in the open and local classes were alike highly creditable, whilst they might also claim to be doing a good work by encouraging the growth of the Chrysanthemum amongst the cottagers and working men, as exemplified by the creditable groups of Chrysanthemums shown on that occasion. This success in results had cost them four silver challenge cups, which had been won out and out by successful prizewinners. This fact had again necessitated an appeal to their good friends, who had so munificently supported them in the past. He was proud to state that the appeal had again met with a hearty response, which enabled him to inform those present that three out of the four cups necessary to raise the total to that of last year had been already promised, which fact showed the confidence of the gentlemen concerned in the management of the Society, and it would go hard with him (the President) if he did not succeed in providing for the other cup that evening, because he knew there were several gentlemen either on his right hand or on his left who could easily afford the luxury of contributing one for so good an object. Other excellent speeches followed, and it was satisfactory to learn that the finances of the Society were in a healthy state.

WATER AGAINST FROST.

OF course, there is no way of protecting plants or crops from injury when the temperature falls several degrees below the freezing point, but for light frosts the practice of burning any material that will form a dense smoke has been found useful in vineyards by forming a canopy over the field, which prevents the escape of heat by radiation from the ground. Protection by water is, however, more practicable than protection by fire, and the "Garden and Forest" condenses the following notes from an article by Professor Kedzie, of the Michigan Agricultural College, which appeared originally in the bulletin of the Michigan State Weather Service:—

The vapour of water in the atmosphere may control excessive changes of atmosphere in two ways—1, By condensing into water it liberates enough heat to raise through 1° the temperature of a thousand times the amount of water condensed, and hence it arrests the fall of temperature by giving out heat. In this way the beneficent dew becomes a warming-pan for chilling fields. 2, Vapour of water in the air as well as clouds prevents the escape of heat by radiation from the soil, and the consequent cooling of the air by night. But for the vapour of water in the air we should have a frost every night in the year. Professor Tyndall says that the removal for one summer night of the aqueous vapour which covers England would bring about the destruction of every plant which a freezing temperature could kill.

If the gardener is forewarned of the approach of a slow frost he may do something to avert the calamity. The old plan of a tub of water under a fruit tree with a rope reaching from the tub into the branches may serve a useful purpose. The evaporation from the water in the tub and of the water carried up through the rope may spread a water blanket about the tree. The shallow cultivation of hoed crops draws up capillary action upon the reservoir of water in the subsoil and keeps the surface soil in a condition which prevents the rapid distribution of soil moisture, and in this way saves plants from frost by a covering as impalpable as air, but as effectual as cider-down. One night the Indian Corn in Michigan was almost entirely killed by frost, but a few fields on the banks of rivers and the borders of lakes were spared. In these fields the corn stalks next morning were dripping with dew. There had been but one-eighth of an inch of rain in two weeks, but evaporation from river or lake had moistened the air and staved off the frost. If the air over the whole State had been as moist as it was along the rivers a heavy dew would have fallen everywhere, and the corn crops would have been saved. Beds of Coleus and other tender plants which have been wetted with cold water in the evening have escaped frost in October when other plants near by were killed.

Mr. E. P. Powell says that the best preventive against frost is a thorough spraying with water during the evening and night. By this means the danger from a fall of 2° or 3° can be averted, and this will often save a crop.

LONDON MARKETS.

THERE are still many old-fashioned middle-class housekeepers who regard the thought of a second vegetable as sheer extravagance, and a great many more, who, if they bring themselves to depart from Potatoes as the solitary accompaniment of the domestic Sunday joint, will limit their choice to Winter Cabbage, Brussels Sprouts, Turnip-tops, Carrots or Turnips. This list is in some cases extended by the substitution of "Curly Kale" or Cauliflowers, or, perhaps, Tomatoes for one or other of the above vegetables. Cauliflowers—they are coming from Cornwall at present, few of the Italian now reaching this country—have won their way because they are so cheap. "White" vegetables, however, appear, and not altogether justly, to be regarded as luxuries. Seakale is the next best thing to Asparagus. The mild winter has forced its growth. The sticks are, no doubt, thin and lanky, but the yield has been enormous, and the price has been in many shops less than that which a few years ago was customarily paid for Brussels Sprouts. Tomatoes hold their ground; practically they are never out of season, for as fast as one source of supply is exhausted another takes its place. Tenerife is now filling the gap. The Canary Islands Tomatoes have been good this winter, and they have sold well at fair prices. Early Rhubarb, it appears, is being successfully grown, as the Kale is, in the outskirts of London, notwithstanding that the fuel—for heat is the essential thing—is dearer there than in the Midlands, where most of the Rhubarb is raised.

Algerian new Potatoes are making room for those from Tenerife. We are still dependent upon France for salads. Crops of Lettuce and Endive in succession are systematically raised in that country, and no one seems to have attempted similar methods here. Strolling through the markets one may frequently note some new development in the trade, and as a rule it will be found that foreign or colonial enterprise is to be credited with the improvement. Thus the French send to this country Celeriac, which is a somewhat ungainly bulbous root; but West-end chefs make capital use of it in soup when Celery is not to be had, for it has the same flavour. Chicory, too, is a vegetable which is eaten largely abroad, its bitterness being gratifying to some palates; but here one may ask for it in vain at most greengrocers. It is not to be ranked in the same category as French Beans, or the pale greenish Haricots called Flageolets, or new green Peas (from France), or Asparagus, all of which are at present in the nature of expensive dainties.

In fruit, perhaps the leading features are the continued scarcity of Oranges and the extraordinary plentifulness of Pine Apples from St. Michael's. They are finely grown, weighing as much as 6 lbs. apiece,

and are very cheap. St. Michael and West Indian Pine Apples together have put English hothouse Pines out of demand. Peaches, beautifully coloured, are to be had at about one-tenth of the price that would be asked for an English Peach, if such were obtainable. Cape Colony is furnishing this luscious fruit. As for flowers, Italy and France are making our houses bright with blossom, for, with the exception of the Lilies of the Valley—many of which are forced, as required, into bloom in England—and the Dutch bulbs in flower, cut flowers at command are mostly from the Mediterranean. Violets are arriving daily from the most southern points, while Roses, red and white, are coming from Nice, together with scarlet Hibiscus, Daffodils—which are improving in form and colour every week—and Narcissi in many varieties. There is no stint of them, and our own glass houses are providing Arum and other Lilies, Cyclamens, Spiræas, and Marguerites in flower.

Vegetable producers in the South of France are by no means pleased at the present winter. Usually the weather is severe enough in the North of France to prevent them fearing any competition from growers who are situated in less favoured latitudes. This year, however, everything is in a very advanced state, and the market gardeners here are entering the field against their Southern *confrères*, who, as a rule, were wont to have matters all their own way in the Halles of Paris. This has had the effect of bringing down prices very much, and only really first-class products command anything like good terms. In the vegetable departments special mention is made of Brittany Cauliflowers and Algerian Artichokes. The first named, which are splendid specimens, have ousted the smaller Southern Cauliflowers from popular favour. Not only are the latter scarce, but there is no demand for them, and the prices rule considerably below the average. The Artichokes from the other side of the Mediterranean are very abundant and are cheap. There is, however, no special display for the moment. There is rather a lack of fruit, home grown or imported, with the exception of Oranges and Mandarins, which are exceedingly plentiful.

But if market gardeners of the South have to complain of competition, such is not the case with flower growers. That strip of country from Toulouse to the Italian frontier well deserves the title of the Garden of France this year. Seldom have blooms so rich or abundant come North from there, especially of Roses of every variety, the Narcissi, and Hyacinths. The delicate pale yellow of the Mimosa is now to be seen in every flower shop in Paris or hawked about in large quantities in the streets. Paris is reaping the benefit of this floral copiousness, for there is a splendid and varied selection to be seen daily in the windows of the florists' establishments along the Boulevards and other popular thoroughfares.—("Daily Telegraph.")



FRUIT FORCING.

Pines.—*Starting Suckers.*—To provide plants to give a succession of fruit from next December onwards some of the most promising suckers will have to be started at the beginning of March, therefore attend to the preparation of the soil, having it under cover, so as to become sufficiently dried for ramming into the pots without clogging and to become warmed. A fermenting bed should also be provided in some close structure to generate and maintain a bottom heat of 85° to 90° near the surface, and with means of maintaining a temperature of 55° to 65° with regularity.

Plants Starting into Fruit.—Those which were selected at the beginning of last December and started by an advanced temperature and an increase of moisture will now be showing fruit. As it is advisable to accelerate the ripening of the fruit of these plants as much as possible the temperature may be maintained at 65° to 70° at night, and 75° to 80° in the daytime under favourable circumstances, ventilating at 80° , allowing an advance to 85° , closing at about that temperature, utilising the sun heat as much as possible. The plants will require more water at the roots, examining the whole stock once a week. Supply water—always with about 1 oz. of Peruvian guano or some other complete fertiliser dissolved in each gallon—only when needed, and then a thorough supply at the same temperature as that of the bed. Recently started plants to follow those already named should have a night temperature of 65° , and 75° by day from fire heat, which will be sufficient for them for some time longer.

Figs.—*Earliest Trees in Pots.*—As the trees have now a number of active roots and fully developed leaves, particular attention must be given to the watering, which should be regular. Turves may be placed around the rims, or strips of zinc about 4 inches deep, and rich compost given, say an inch thickness at a time, as the roots occupy it, and liquid manure in a weak tepid state, always in sufficient quantity to pass through the soil to the drainage. The atmosphere must be kept congenial, syringing the plants twice a day when the weather is fine, and damping the walls and paths when dull. A steady temperature of 60° at night, 5° more on mild, and falling below those degrees on cold nights, with 60° to 65° by day when cold and dull, and 10° to 15° rise with gleams of sun, will sustain the growth made, and it can be accelerated under the influence of light. Admit a little air at 70° , keeping it with sun heat at

75° to 80° to about midday, when, by diminishing the ventilation, the temperature may advance to 85° or 90°, closing sufficiently early to maintain a good heat while daylight lasts.

Attend to stopping and tying as growth advances, and guard against overcrowding by early rubbing off shoots for which there is not space for full exposure to the light. Pinch off the points of the shoots at the fifth leaf if necessary to secure symmetrical habit, otherwise sturdy growths afford the finest fruit when unpinched. As the branches may not always be thinned without sacrificing some fruit, and cutting out when the sap is most active being very inadvisable, tie such out, putting in the needful stakes. Any excess branches are best cut out when the fruit is gathered, and the growths left ripen better in consequence.

Early Forced Planted-out Fig Trees.—The house started at the new year is very promising, the trees and young Figs growing freely. The trees must be attended to for disbudding, exercising judgment as to what shoots to reserve for succession and stopping, always removing surplus when in bud state. Where there is room the leading shoots may be allowed to the extremity without stopping, and no more should be laid-in than there is space for insuring full exposure to light, reserving a few growths where there is room without interfering with the successional shoots, and pinching at the fifth leaf. These so-called spurs will give second crop Figs, and may be useful for displacing shoots cut out later, but it is not good practice to encourage spur growths. Mulch the borders lightly with thoroughly decayed lumpy manure, and sprinkle on it a handful per square yard occasionally of bone superphosphate, or if somewhat free in growth use mineral superphosphate. The mulching will attract the roots to the surface, where they can be easily supplied with nutrition as needed, supplying water as required, with liquid manure in the case of trees needing support through limited rooting area. A temperature of 55° to 60° at night, 60° to 65° by day artificially, 70° to 75° with a little sun, rising to 80° or 85° in bright weather is suitable.

Late Fig Houses.—Complete the pruning—a bad practice so late, it being better done in the late summer or when the crop is cleared—and dressing of the trees, using a brush and carbolic or petroleum soft-soap to cleanse them of scale and hibernating red spider, or add a tablespoonful of petroleum to a quart of water, in which 5 ozs. of the best soft-soap has been dissolved by boiling, adding the petroleum while hot, and stirring in briskly till amalgamated. This, when cool enough, say 130°, may be used on hard wood, and diluted, half with hot water, on the rest of the tree, taking care not to damage the young Figs. The old mulching or loose surface soil should be removed, and a little fresh loam and decayed manure supplied, sprinkling on it 4 ozs. per square yard of some approved fertiliser, pointing in lightly, or covering with a little compost. Keep the house as cool as possible, merely excluding frost.

Peaches and Nectarines.—*Earliest House.*—The recent favourable weather has made the trees look well, and the fruit profits accordingly. A night temperature of 50° to 55° and 60° to 65° by day had been secured without much recourse to fire heat; also 5° to 10° advance from sun, and with free ventilation which Peaches and Nectarines delight in, so that satisfactory progress has been made. When the growth is strong the whole of the foreright shoots may be taken off at once, and some of the side shoots pinched back to form spurs, but not on growths that will be removed after the fruit is gathered, retaining the best breaks from the base of the shoots now bearing. Trees that have set heavy crops of fruit should have the least promising removed, especially those badly placed, and to help weakly trees afford liquid manure when moisture is required at the roots, or supply 4 ozs. per square yard of a good all-round fertiliser. If the trees have a tendency to produce long, weakly growths, pale in colour, use a mixture of two parts air-slaked chalk lime and one part fresh dry clean soot, mixing thoroughly and applying without delay, using $\frac{1}{2}$ lb. per square yard. This, from the ammonia and mineral matter of the soot, with the lime acting on organic matter in the soil, for the dressings should be lightly pointed in to prevent the loss of ammonia, will supply present food and a continuance of nutrition, which without the lime would remain inert, and certainly not nearly so available, if not in some respect injurious.

Syringe the trees in the morning and afternoon with water of the same temperature as the house, and always sufficiently early to allow the foliage to become dry before night. On dull days omit the afternoon syringing, also the morning when cold and sunless, damping the paths and borders instead. Ventilate from 60°, increasing with the sun heat, taking care to avoid cold draughts and sudden depressions of temperature, which cripple the foliage and sometimes causing the fruit to fall.

Second Early House.—Trees started at the new year have set, or nearly so, the fruit, and need to be syringed carefully after that is effected, so as to better enable them to cast off the remains of the flowers. A night temperature of 50° is safe in severe weather and 55° by day, 5° more in mild weather, with 5° to 10° rise from sun heat. Ventilation should be increased (a little being left on constantly) from 55°, and having it full at 65°, then the trees will form sturdy growths and foliage capable of assimilating nutrition for the current crop, and making provision for a succeeding one. Disbud gradually and judiciously when the fruit is fairly swelling, and when begun follow it up day by day. Where there is a thick set of fruit remove the smallest and worst placed by degrees. Examine the inside border, and if dry afford a thorough supply of water, followed, if necessary, by liquid nourishment or a top-dressing of a fertiliser washed in moderately. Avoid, however, making the soil sodden or needlessly supplying manure, which in some cases is too abundant and in others deficient.

Trees Started in February.—In the house started at the beginning of this month the flowers are all aglow with beauty, and give off a fragrance that betrays abundance of nectar. The trees must be free from fungal and insect pests, or results will not be satisfactory. When the anthers show clear of the corollas cease syringing, maintaining a genial atmosphere by damping the paths and borders in the morning and early afternoon of fine days. Turn on the heat in the morning to secure and keep a temperature of 50° by day, ventilating from 55°, allowing an advance to 60° or 65° with a free circulation of air, employing fire heat only at night to keep the temperature between 40° and 45°, and, with a little air at the top of the house constantly, there is no fear of the pollen being converted into paste by moisture or of this settling on the petals to discolour them. Where there is a great show of blossom remove that on the under side of the shoots. Supply water to the border if in need of moisture. Fertilise the blossoms when fully expanded and the pollen is ripe.

Houses to Afford Ripe Fruit in Late July and Early August.—These planted with the choicest midseason varieties should be closed early in March. When the blossoms are retarded and will not keep from developing there is nothing for it but to secure safety from frost after the buds show colour, syringing occasionally up to that, then ceasing, and instead of allowing the flowers to perish, as they certainly will do in a cold, close, moist atmosphere, maintain a temperature of 50° by day, and with ventilation from that point an advance may be made from sun heat to 60° or 65°, employing fire heat only at night to keep the temperature between 40° and 45°. This will insure a good set of fruit, and by liberal ventilation afterwards the crop can be so timed as to ripen at the desired period. Where the blossoms are superabundant, remove those on the under side or back of the shoots, drawing the hand the reverse way of the growths. See that there is no aphides, for cleanliness is all-important, fumigating if there be the least trace.

Late Houses.—Unheated structures with the roof lights fixed are the worst possible in an early season, as the flowering is early, and spring frosts, with damp and cold weather frequently prevail, so that the set of fruit is often better on walls with protection than under glass. With the roof lights off the buds are quite dormant, and need not be replaced until the buds commence swelling, and the colour "peeps" in the forwardest. Under fixed roofs ventilate freely, and where there is heat merely exclude frost. Heat is absolutely essential in cold districts, as the blossom is not safe from spring frosts, and the fruit does not ripen perfectly if the season be cold and sunless, as is often the case after forward springs. Besides, a gentle heat during flowering does much towards securing a good set, and in late summer and autumn gentle artificial heat is sometimes necessary, and in many cases of doubtfulness desirable, to make sure of perfectly ripening the fruit and wood. Indeed, the latest varieties cannot be depended upon to produce good fruit in cold localities without aid in backward seasons, and some of the latest sorts are noble in appearance, good in quality when the trees are well nourished, a little heat making great difference in the fruit as regards its thorough ripening. Borders that have been exposed are thoroughly moistened through to the drainage, and will not require watering until the fruit is advanced in swelling. Inside borders under fixed roofs should be examined, and if at all dry be well supplied with water. The liability of such borders to become dry whilst the trees are at rest is one of the chief causes of the buds being cast when the trees should be developing their flowers, while in the case of exposed borders bud-casting is reduced to a minimum.

THE FLOWER GARDEN.

Zonal Pelargoniums.—Cuttings taken from old plants before these have been started into growth frequently fail to root. Spring rooted plants of the bronze and tricolor sections usually surpass those rooted in the autumn. Cuttings may either be placed singly in small pots or in well drained 6-inch or larger pots. Keep a little on the dry side at first, top directly they commence growing afresh, and either place singly in small pots or give more room in larger pots and boxes. If the old plants are kept in heat they will give later cuttings, and yet be useful for filling up border space afterwards. Autumn rooted plants should be topped, and when they break afresh be then either placed singly in 2½-inch pots or given more room in boxes, keeping them growing in gentle heat till they are large and strong enough for cooler quarters. The Ivy-leaf section should also be started into growth before cuttings are taken.

Heliotropes.—These are deservedly popular for bedding purposes, the more compact dark flowering varieties proving the most effective. Strong, old pot plants of these should have been saved, and, if not already done, lightly prune them and place in a forcing house. They will soon produce a number of cuttings which root quickly in close propagating frames, or in well-drained boxes covered with squares of glass, and shaded when necessary. A cutting ought to be taken from each of these young plants by way of topping, and soon after they may either be placed singly in small pots or disposed in boxes of good soil. Trained plants in pots plunged in the turf are effective, and these should be now started into growth. Directly the plants are moving shake nearly clear of the old soil and repot in a moderately rich, light loamy compost. Keep them growing in heat till such time as blank spaces have been clothed by means of long shoots laid in, after which a light warm greenhouse is the best place for the plants.

Verbenas.—Stock plants, arranged somewhat thickly in small pots, ought to be repotted, and placed in a fairly brisk, moist heat to promote the formation of abundance of soft shoots. When there is plenty of sap in the cuttings they root readily under the treatment advised in the case of Heliotropes. Seedling Verbenas are the most

vigorous in growth, and a single packet of seed will give many good varieties; but they are not so well adapted for edging masses of other plants as are those raised from cuttings. Sow the seed at once in pans of fine light soil, give it the benefit of a brisk, moist bottom heat, covering with glass, and shading in the usual manner. Roots of *Verbena venosa* cut into two-joint lengths dibbled in thickly in boxes, and placed in heat, will develop into neat little plants, which may be either given more room in boxes, or be temporarily bedded out in rough frames.

Petunias.—Soft cuttings obtained from old plants started in heat root readily, and can be grown into bushy plants by bedding-out time. These, again, are to be preferred to seedlings, which can be raised in a pan. After sowing treat as advised in the case of *Verbenas*, being careful not to admit sunshine to the soil before the plants are up. The plants must be hardened by exposure to the light, but not strong sunshine, and then pricked in pans or boxes of fine soil. They may be topped and given more room later on.

Dahlias.—Old roots started in gentle heat soon push up numerous young shoots, and these if taken off when about 3 inches long, placed singly in thumb pots, surfaced over with sharp sand, and given a brisk, dry heat will root quickly. These young single-stemmed plants, duly transferred into larger pots before they become stunted, are the best for planting. Seedling Dahlias are easily raised, both doubles and singles being had in this way. Sow the seed in pans, place in brisk heat, raise the seedlings well up to the light before they become spindly, and duly prick out into boxes or pans. If disposed 4 inches or rather less apart they may be transplanted direct from the boxes to the open border, moving nearly as readily as they would out of small pots.

Salvia patens.—This also can be raised from seed much as advised in the case of Dahlias. It is one of the richest in colour (blue) of any bedding plant, and is well adapted for back rows in borders and for mixing in beds. This species is tuberous-rooted, and if lifted in the autumn and wintered in pots or boxes of moderately dry soil may, if desired, be started early in heat, with a view to having a number of cuttings.

Abutilons.—Flowering varieties give a welcome change in the ordinary round of bedding plants. Procure and sow the seed at once in a brisk heat, and when the seedlings are about an inch high prick them out in pans of light soil. From these they may be transferred to small pots, and should be kept growing strongly. Abutilons with fine foliage, such as *A. Thompsoni*, are showy and effective either dotted among dwarf or trailing plants or mixed with taller-growing subjects. These can only be had from cuttings. Start old plants, preferably those raised and planted out last season, in a brisk heat, and as the side shoots attain a length of about 4 inches take them off with a heel and place them round the sides of 5-inch pots filled with sandy soil. Keep in a close frame and brisk heat till rooted, then harden and place singly in 2½-inch pots. Do not top them, single-stemmed plants proving the most effective.

THE BEE-KEEPER.

APIARIAN NOTES.

HOW COLONIES BEHAVE.

BEGINNERS are not unfrequently disappointed by the loss of one or more hives, purchased in good condition in the autumn. In some cases it is difficult for experts to explain the reason of this, and more so for amateurs. There are some things we can understand and control, but others are entirely the reverse. One of the latter is, why bees will persist in raising queen cells, either attempting to or deposing a youthful, fertile, healthy queen, and introducing her to another hive, whose queen takes the former's place, and both do well.

I understand the cause of queens being deposed, especially when fed, through robbers gaining access to the hives by too wide a doorway. This is where, in my opinion, the ventilating floor, with a narrow door, has a decided advantage. The mischief does not end with the hive raising queens, as these finding opposition enter other hives, which may occur from January till October, when as often as not the queen regnant is destroyed. Sometimes they live peaceably together for a considerable time, but while the youthful queen exists the fertile one is in jeopardy. If unfortunately she is killed during the winter or early spring months, the hive either becomes a confirmed drone breeder, dies, or is robbed. It is also a fact, when queens are induced to deposit eggs extensively during the autumn, that they are liable to give way at the time when their energies are most in demand by the bees, and which would be most profitable to the bee-keeper.

Sometimes bees suffer an aged and effete queen to linger without attempting to supersede her with a young queen; but on the other hand bees seem to realise their position, as whenever a queen shows the least sign of relaxing egg-laying she is soon deposed. After the egg is deposited in a clean cell the queen appears to care nothing more for it, but the bees will suffer death rather than

desert their charge till the end of spring. After then, however, if food becomes scarce the infant bees are destroyed. Large-sized hives fully stored, plenty of bees in the autumn, and these preserved during the winter, are the best safeguards against the untimely deposing of queens, which should be those bred at the end of the previous summer.

CHLORIC DROPSICAL FEVER.

At the present time my apiary appears to be free from this disease, but two hives affected in the autumn have a considerable number of dead bees. It is too early yet to say whether we have found a remedy for this disease, for, previously, when I supposed it located, all my efforts to suppress it failed. Responding to an appeal in the *Journal of Horticulture* several correspondents communicated with me, whom I advised to transfer the bees into empty hives. I am now informed the hives operated in this way are free from the disease with which they were previously afflicted. In my own apiary the swarm from the stock affected keeps healthy.—A LANARKSHIRE BEE-KEEPER.

SEASONABLE NOTES.

THE exceptionally fine weather noted in January has continued up to the present time. Here in the Midlands we have had much above the average of bright sunshine, with a high temperature for the time of year, only 1° or 2° of frost having been registered, and no rain. A correspondent in the South of England mentions the prevalence of fogs, which we rarely experience in this locality, which is doubtless an advantage to the bees, as they have been daily on the wing, reminding one of spring by their foraging on the fast opening flowers.

On the 9th inst., at 10 A.M., several bees were observed returning to their hives loaded with pollen, showing that breeding was going on apace. This is encouraging to bee-keepers, who will be pardoned if they look forward to a record in honey production during the coming season, as in the whole of my experience I have not known the prospects to be so good. Still, a check may come later on and upset all our calculations, and it is, therefore, wise to take every precaution to prevent, as far as it is possible, any colony suffering from shortness of stores. Bear in mind that with lengthening days, and a temperature sufficiently high for bees to leave their hive, a much greater consumption of stores will take place.

With a view to guarding against any mishap, I have during the past week made an examination of the majority of my stocks, and as each hive is numbered it is a simple matter to make notes for future guidance. In carrying out this operation it is interesting to observe the vast difference that has taken place in the consumption of stores in hives standing near each other. All were fed as soon as the honey flow was over last season, each colony being supplied with as much syrup as could be stored in ten standard frames. At the present time some stocks have several frames of sealed stores, others have none. What is the cause of this? I think the reason is not far to seek; those colonies that have ample stores settled quietly into winter quarters after being fed, very little autumn breeding taking place, but those that are now short of stores continued breeding till late in the season. The excessive heat experienced in September would have a tendency to cause this, resulting in a much greater consumption of stores.

Those which required it were at once supplied with candy and with plenty of warm coverings, and no harm will happen to them. All stocks were found to be very strong in bees, more so than has been the case in unfavourable seasons in the month of May. Many of the hives were lifted from their floor boards and all were found to be dry. The *débris* that had accumulated in the corners were brushed off and the hives replaced on the boards again, this being done without any assistance, the whole manipulation of a single hive not taking more than two minutes.

All entrances to hives are now reduced to about an inch in width. This will keep the hive warmer whilst breeding is going on and will also prevent robbers gaining an entrance. Robbing is sometimes very prevalent in early spring, and if a strong colony once gains an entrance to a weak stock they will in a short time clear out all the stores and cause a general uproar among the other bees in the apiary.—AN ENGLISH BEE-KEEPER.

TRADE CATALOGUES RECEIVED.

Barr & Son, 12, King Street, Covent Garden.—*Hardy Perennials*.
T. B. Dobbs & Co., 32, Queen Street, Wolverhampton.—*Seeds*.
Little & Ballantyne, Carlisle.—*Farm Seeds*.
Sutton & Sons, Reading.—*Farmers' Year Book and Graziers' Manual*.
Vilmorin, Andrieux & Co., 4, Quai de la Mégisserie, Paris.—*Dahlias and Cannas*.



* * All correspondence should be directed either to "THE EDITOR" or to "THE PUBLISHER." Letters addressed to Dr. Hogg or members of the staff often remain unopened unavoidably. We request that no one will write privately to any of our correspondents, as doing so subjects them to unjustifiable trouble and expense.

Correspondents should not mix up on the same sheet questions relating to Gardening and those on Bee subjects, and should never send more than two or three questions at once. All articles intended for insertion should be written on one side of the paper only. We cannot reply to questions through the post, and we do not undertake to return rejected communications.

Sprayers and Powder Distributors (J. B.).—Both the kinds you mention are as good as we have seen. Vermorel's knapsack pump L'Eclair has given widespread satisfaction; it has been advertised in our columns by Messrs. Charles Clarke & Co., 20, Great St. Helens, London, E.C. The Torpille powder distributor also answers its purpose well. It is obtainable from the same firm, who will send you all particulars on application. We are glad that as a "new subscriber" you "like the matter the 'Journal' contains;" all new subscribers do, as well as old ones, and we are always ready to be of service to both when we can.

Lawn Mixture of Grass Seeds (J. C. C.).—You will require 20 lbs. of finest lawn tennis mixture of grass seeds to form a good close turf quickly, and it ought to be procured from a reliable seedsman, informing him of the nature of your soil, so that a suitable mixture may be prepared. It will cost a little more than a haphazard mixture, but will be much more satisfactory and cheaper in the end. *Poa annua* is an annual weed grass, common on walks and yards, and of small use for a lawn tennis ground. The 15th of March is much too soon to sow lawn grass seeds, it being better to defer sowing until the close of that month or beginning of April, taking care to have the soil in good tilth, choosing a calm day for sowing with an early prospect of rain.

Fallowing Land for Apple Trees (R. E. H.).—The ground to be planted next autumn with pyramid Apple trees would not profit by lying after draining and trenching, but it would do so immensely if you were to push forward the draining and trenching, so as to be able to take a crop of Potatoes, manuring it with 10 tons of good farmyard manure, supplemented by 2 cwt. of kainit, and 3 cwt. of basic cinder phosphate mixed. The cultural operations needed for the Potato crop would insure cleanliness and amelioration of the brought up stubborn material, and secure a condition and enrichment compatible with the requirements of Apple trees, while the Potato crop would pay for all the expense incurred for it. If the land be foul, then it may be desirable to keep it in fallow during the summer, exposing it roughly, and working so as to secure thorough cleanliness and good condition. It will not, however, gain anything during the summer unless the weather be dry, but if wet it will lose considerably, as instead of the nitrates being increased, they will be washed out in proportion to the rain.

Covering Vine Border in the Winter (Anxious).—The outside border, and we presume the only one, as the Vines are probably about thirty years old, does not need covering with manure all the winter. It suffices if the stems, which we assume are partly outside, be properly protected with haybands or other material, and the large roots near the collar are mulched with a few inches thickness of partially decayed manure, or even with compost, as it is not the freezing so much as the sudden thawing that causes the mischief. With those precautions the border may remain bare through the winter without prejudice or injury to the roots. Vines are not natives of countries where frost is nearly so severe, nor the rainfall so abundant as here. Some, however, think exposure beneficial, and only cover their borders with a light mulch in summer as an encouragement of the surface roots, and for securing more uniform moisture as well as some nourishment. These remarks apply to mid-season Vines, which do not, as a rule, start into growth before March, and the Grapes ripen in August. When the Vines are forced much earlier it is usual and advisable to cover the border with sufficient protective material to exclude frost, for it is certain the roots cannot transmit the water they absorb from the soil when they are frozen, and in that case the Vines if in growth will evaporate what water they contain, and flag in consequence of an inadequate supply. This sometimes causes loss of crop. It is a question, therefore, of circumstances. In your case we should remove all the manure except 2 or 3 inches of a somewhat lumpy nature. The air will then have a chance of oxidising the soil, and that means sweetening, while rain will enter freely and cleanse it from impurities, sour material being displaced by nitrified and ammoniated; at the same time see that the stems, if outside, are properly protected, as well as the large roots, from frost.

"The Cultivated Rose" (W. J. P.).—You ask if our indigenous species of Roses have played any part, selective or otherwise, in the origin of the "cultivated Rose," and also intimate that you would read with pleasure a detailed account of the matter. We shall be glad if any experts can supply something of what you wish to know. The History of the Rose, in Mr. William Paul's great work, the "Rose Garden," would interest you. He tells us there that the French Rose, *Rosa gallica*, crossed with the Chinese Rose produced the Hybrid Chinese; the latter again crossed with the Bourbon and Damask Perpetual produced the Hybrid Perpetual. A great deal might be said on the subject by those in sympathy with it, and who may also have time and opportunities for research.

Applying Chemical Manure to Vines (W. G.).—The best time to apply fertilisers of a quick-acting nature is when the Vines are commencing to grow, and those of a slow nature in the autumn. Bone meal is a slow acting substance, but steamed or boiled is quicker and much poorer in nitrogen than that from raw bones. The bone meal you have will be useful applied now, using 4 ozs. to $\frac{1}{2}$ lb. per square yard, and pointing in moderately, supplying phosphoric acid and some ammonia. This may be followed when the Vines are commencing to grow with nitrate of soda crushed fine and mixed with two or three parts of finely sifted earth or thoroughly decayed manure, using 1 oz. of nitrate of soda per square yard, repeating when the Grapes are set, when half grown and after stoning. Those will do some good if there is plenty of potash in the soil, but the better plan is to add some to the bone meal, say two parts bone meal and one part sulphate of potash, using the amount of the mixture as of bone meal alone, afterwards using the nitrate of soda as before named. This will enable you to utilise the materials at command, which is usually more appreciated by the proprietor, and always better for the man.

Chemical Manure for Peaty Soil—Mineral and Bone Superphosphates (D.).—Mineral superphosphates vary in percentage of soluble phosphate, according to the source from which they are made. The usual quality contains from 25 to 27 per cent. of phosphate rendered soluble, but higher qualities can be obtained. On most soils containing a sufficiency of lime, these mineral superphosphates are the most certain and economical form in which phosphoric acid can be applied, especially on clayey land and in late growing districts. They do not contain any nitrogen, consequently are not as valuable as bone superphosphates, which in that of dissolved raw bones (pure) contain 2.86 nitrogen, equal to 3.47 of ammonia, while that from dissolved, steamed, or boiled bones is nitrogen 1.70, equal to ammonia 2.18 per cent. Bone superphosphates are, therefore, higher in price and better value for your purpose than mineral superphosphates. The mixture given on page 130, February 6th, is not generally suitable for plants in pots, but it answers for the quick growing softwooded plants when the roots are not on the surface, and it is kept from the foliage. A better mixture is composed of three parts superphosphate, one and a half part powdered saltpetre, and one and a half part powdered sulphate of ammonia, mixed, using an ounce to half a dozen 6-inch pots, or in liquid form half ounce to a gallon of water.

Making Mushroom Spawn (W.).—We cannot give you a better reply than that we gave to a New Zealand correspondent some little time ago. "Mushrooms for the Million" does not describe the making of spawn. It is written for the guidance of the inexperienced in growing Mushrooms, and in the hope that they may succeed in their object. There would be ten times more failures than now if beginners were to commence with making the spawn. It would no more answer to do so than for every builder of a house to make his own bricks. Moreover, as has been stated in the *Journal of Horticulture*, there are some things which cannot very well be taught on paper—making a watch, for instance—but can only be learned by experience. It is much the same in respect to making Mushroom bricks. General lines of guidance may be laid down, and with perseverance, and possibly sundry failures, a few persons who follow them may succeed in their object. No better time for making the spawn can be selected than the end of August or the beginning of September in England. Take, as materials, a barrowload of cowdung, rather stiff, and two barrowloads of horse droppings, with a little short straw with them, and half a barrowload of fibry loam. Mix these into a stiff mortar-like substance until well incorporated and the mixture looks like grafting-clay. Then make a frame of wood, say half-inch boards, and in four pieces—that is, two sides and two ends—enclosing a space of 9 inches long, $4\frac{1}{2}$ inches wide, and $1\frac{1}{2}$ inch deep. Then obtain a flat clean board and a bucket of water, dip the frame in the water, place it on your board, fill it with the prepared material, strike level with spade or trowel, and turn out the bricks, placing them on edge on the boards to dry. In two or three days, if fine, make two holes in the bricks, but not going through—say about an inch in diameter—turn the bricks until they are tolerably dry, then into each hole push a piece of good spawn, and draw a little cowdung on clay over it to prevent its falling out. Next make up a slight hotbed of litter, on which build these bricks on edge in piles, in open honeycomb or pigeon-hole fashion, and cover over with litter, so that these spawned bricks shall have a temperature of from 80° to 85°, and not more. As the spawn runs, the bricks must be examined, and, as soon as they are filled with the gossamer-like white spawn threads, removed, and kept in a dry place until wanted for use. Some bricks or pieces will be ready to remove before others. Such is the method of procedure, and we trust you may be able to exercise the judgment that is requisite in carrying it out to achieve success.

Selection of Border Carnations (T. M. H.).—You ask for a selection of the above for "spring bedding;" by which we presume that you wish to plant in the spring for flowering in the summer. We give the names of one of each section, which have been chosen by experts as the best, and given in the *Carnation manual* issued by the National Carnation and Picotee Society. Carnations.—(Scarlet bizarre) Robert Houlgrave; (crimson bizarre) Rifleman; (pink and purple bizarre) W. Skirving; (rose flake) Thalia; (purple flake) Jas. Douglas; (scarlet flake) Sportsman; (self) Germania. Picotees.—(Heavy red edged) John Smith; (light red edged) Thomas William; (heavy purple edged) Muriel; (light purple edged) Ann Lord; (heavy rose edged) Mrs. Sharpe; (light rose edged) Favourite; (yellow ground) Annie Douglas.

Asparagus Bunching Machine (G. B.).—A correspondent obliges us by saying that the machine used in Cambridgeshire for binding Asparagus is an adaptation of a firewood bundling machine by the Crown Trading Company, Cottenham and Stratford Market, who had a quantity "adapted" for the purpose, one of which they use. Others were disposed of to growers in the neighbourhood, who are generally well pleased with them. The price is £3 5s., f.o.r., at Oakington. The machine ties the small bunches into a bundle. A woman can work it, and can tie as much or more in a given time than a man can by hand. It is claimed that besides saving the difference between the wages per hour of a woman and a man the bunches are much firmer, and present a better appearance in the market. You will understand its nature if you can see a firewood machine at work; or you can refer to Mr. Thos. Ivatt, The Limes, Cottenham; or Mr. Robert Norman, Cottenham, farmers, who have had one each at work in bunching Asparagus for some years.

Evergreen Climbers for North Aspect (J. E.).—Of the creepers named in your list, and which you say you have planted, we may say that in North Wales, as well as elsewhere, we found *Holboellia latifolia*, *Crataegus pyracantha* Lælandi, *Escallonia* (all species) to succeed satisfactorily only on walls with a sunny aspect, from south-east to south-west, even white Honeysuckle and *Cydonia japonica* requiring east or west, or those named to flower satisfactorily. Hence you are only left with two, *Jasminum nudiflorum* and *Tropæolum speciosum*, that are suitable, and we regret to say we know of no evergreens for a north aspect except the Ivies, the best being the Irish Ivy (*Hedera canariensis*), other choice being its gold spotted (*H. c. aurea maculata*) variety, *H. latimaculata*, and *H. Rægnieriana*. The smaller-leaved Ivies are not so hardy, but they are better for rather low walls, *Caenwoodiana*, *Donerailensis*, and *H. digitata* being distinct. It would be desirable to mix some of the leaf mould with the rather heavy soil, also some brick and mortar rubbish, or even coarse ashes, so as to lighten and keep the soil open.

Names of Fruits.—Notice.—We have pleasure in naming good typical fruits (when the names are discoverable) for the convenience of regular subscribers, who are the growers of such fruit, and not collectors of specimens from non-subscribers. This latter procedure is wholly irregular, and we trust that none of our readers will allow themselves to be made the mediums in infringing our rules. Special attention is directed to the following decision, the object of which is to discourage the growth of inferior and promote the culture of superior varieties. In consequence of the large number of worthless Apples and Pears sent to this office to be named, it has been decided to name only specimens and varieties of approved merit, and to reject the inferior, which are not worth sending or growing. The names and addresses of senders of fruit or flowers to be named must in all cases be enclosed with the specimens, whether letters referring to the fruit are sent by post or not. The names are not necessarily required for publication, initials sufficing for that. Only six specimens can be named at once, and any beyond that number cannot be preserved. They should be sent on the first indication of change towards ripening. Dessert Pears cannot be named in a hard green state. (P. W.).—Unknown, probably a local seedling. (C. F. F.).—1, Lord Derby; 2, Norfolk Beeding; 3, Bramley's Seedling. (B. B. B.).—1, Braddick's Nonpareil; 2, Lane's Prince Albert; 3, Dumelow's Seedling; 4, Winter Hawthornden; 5, Winter Quoining; 6, Northern Greening. (S. L.).—1, Minchull Crab; 2, Tower of Glamis; 3, Norfolk Stone Pippin; 4, Tyler's Kernel. The Pear resembles Nouveau Poiteau in all respects except flavour.

Names of Plants.—We only undertake to name species of plants, not varieties that have originated from seeds and termed florists' flowers. Flowering specimens are necessary of flowering plants, and Fern fronds should bear spores. Specimens should arrive in a fresh state in firm boxes. Slightly damp moss, soft green grass, or leaves form the best packing, dry wool the worst. Not more than six specimens can be named at once, and the numbers should be visible without untying the ligatures, it being often difficult to separate them when the paper is damp. (H. H.).—A poor variety of *Odontoglossum hebraicum*. (X. Y. Z.).—1, *Adiantum farleyense*; 2, *Pteris cretica albo-lineata*; 3, *Adiantum trapeziforme*; 4, *Asplenium biforme*; 5, *Polypodium* (*Paleobotium*) *aureum*; 6, specimen insufficient. (Yorks.).—1, *Camellia Waratah*; the remainder are florists' varieties. (D. G.).—1, *Todea superba*; 2, *Doryopteris palmata*. (B. H. J.).—1, *Dendrobium nobile*; 2, a good form of *Cœlogyne cristata*; 3, *Odontoglossum crispum*, poor variety; 4, *Cymbidium eburneum*; 5, *Cattleya Trianae*; 6, *Cypripedium Spicerianum*. (V. F.).—1, *Iris reticulata*; 2, *Acacia Farnesiana*; 3, *Azalea obtusa*; 4, dead; 5, *Mackaya bella*. (J. J. J.).—The leaf resembles that of the Ginkgo, also known as the Maidenhair Tree, *Salisburia adiantifolia*. We have occasionally seen this tree trained against walls, but it is in no sense a climber.

COVENT GARDEN MARKET.—FEBRUARY 19TH.

SOME good samples of Williams from the Cape, also Peaches semi and clingstones.

FRUIT.

	s.	d.	s.	d.		s.	d.	s.	d.	
Apples, per bushel	2	0	to	4	6	Peachos, Cape, per case ..	8	0	to 10	0
„ Nova Scotia, barrel	13	0		17	0	Pears	8	0	10	0
Grapes, per lb.	1	3		3	0	St. Michael Pines, each ..	2	0	6	0
Lemons, case	11	0		14	0					

VEGETABLES.

	s.	d.	s.	d.		s.	d.	s.	d.		
Asparagus, per 100	6	0	to	6	6	Mustard and Oress, punnet	0	2	to	0	0
Beans, per lb.	0	10		1	0	Onions, bushel	3	6		4	0
Beet, Red, dozen	1	0		0	0	Parsley, dozen bunches	2	0		3	0
Carrots, bunch	0	3		0	4	Parsnips, dozen	1	0		0	0
Cauliflowers, dozen	2	0		3	0	Potatoes, per cwt.	2	0		4	0
Celery, bundle	1	0		0	0	Salsafy, bundle	1	0			6
Coleworts, dozen bunches	2	0		4	0	Seakale, per basket	1	6		1	9
Cucumbers, dozen	4	0		10	0	Scorzoneria, bundle	1	6			0
Endive, dozen	1	3		1	6	Shallots, per lb.	0	3			0
Herbs, bunch	0	3		0	0	Spinach, bushel	2	0		2	3
Leeks, bunch	0	2		0	0	Sprouts, half siv.	2	6		0	0
Lettuce, dozen	1	3		0	0	Tomatoes, per lb.	0	6		6	9
Mushrooms, per lb.	0	6		0	8	Turnips, bunch	0	3		0	0

PLANTS IN POTS.

	s.	d.	s.	d.		s.	d.	s.	d.
Arbor Vitæ (golden) dozen	6	0	to 12	0	Ferns (small) per hundred	4	0	to 6	0
Aspidistra, dozen	18	0	36	0	Ficus elastica, each	1	0	7	0
Aspidistra, specimen plant	5	0	10	6	Foliage plants, var. each	1	0	5	0
Azalea, per dozen	18	0	36	0	Genista, per dozen	9	0	12	0
Cineraria, dozen pots ..	6	0	12	0	Hyacinths, dozen pots ..	6	0	12	0
Cyclamen, dozen pots ..	8	0	15	0	Lycopodiums, dozen	3	0	4	0
Dracæna, various, dozen ..	12	0	30	0	Marguerite Daisy, dozen ..	6	0	9	0
Dracæna viridis, dozen ..	9	0	18	0	Myrtles, dozen	6	0	9	0
Ericas, various, per dozen	9	0	24	0	Palms, in var. each	1	0	15	0
Euonymus, var., dozen ..	6	0	18	0	„ (specimens)	21	0	22	0
Evergreens, in var., dozen	6	0	24	0	Tulips, dozen pots	6	0	8	0
Ferns in variety, dozen ..	4	0	18	0					

AVERAGE WHOLESALE PRICES.—OUT FLOWERS.—Orchid Blooms in variety.

	s.	d.	s.	d.		s.	d.	s.	d.	
Acacia or Mimosa (French)					Narcissi, var., doz. bunches	0	9	to	2	0
per bunch	0	9	to	1	6	Orchids, various, doz. blms.	1	6	12	0
Anemone (French), dozen					Pelargoniums, 12 bunches	6	0	9	0	
bunches	2	0	4	0	Primula (double), dozen					
Arum Lilies, 12 blooms . .	2	0	4	0	sprays	0	6	1	0	
Asparagus Fern, per bunch	2	0	4	0	Roses (indoor), dozen . .	1	0	2	0	
Azalea, dozen sprays . . .	0	6	1	0	" Tea, white, dozen . . .	2	0	4	0	
Bouvardias, bunch	0	6	1	0	" Yellow, dozen (Niels)	3	"	6	"	
Camellias, dozen blooms . .	0	9	1	6	" Red, dozen blooms . .	6	0	9	0	
Carnations, 12 blooms . . .	1	0	3	0	" Safrano (English),					
Daffodils, single, doz. blms.	1	6	2	6	dozen	1	6	3	0	
" double, doz. blms. . . .	0	6	1	0	" Safrano (French), per					
Eucharis, dozen	3	0	4	0	dozen	1	6	2	0	
Gardenias, dozen	4	0	9	0	" Pink (French), per doz.	3	0	4	0	
Geranium, scarlet, doz.					Smilax, per bunch	5	0	9	0	
bunches	4	0	9	0	Snowdrops, dozen bunches	1	0	1	6	
Hyacinth (Roman) dozen					Stephanotis, dozen sprays	6	0	9	0	
sprays	0	4	0	9	Tuberose, 12 blooms . . .	0	6	1	0	
Hyacinths, dozen spikes . .	2	0	4	0	Tulips, dozen blooms . .	0	6	1	6	
Lilac (French) per bunch	3	0	5	6	Violets Parme (French),					
Lilium longiflorum, twelve					per bunch	4	0	5	0	
blooms	4	0	6	0	" Ozar (French), per					
Lily of the Valley, dozen					bunch	2	0	3	0	
sprays	0	6	1	0	" Victoria (French),					
Maidenhair Fern, doz. behs.	4	0	8	0	12 bunches	1	6	2	0	
Marguerites, 12 bunches . .	2	6	4	0	" English, 12 bunches	1	0	2	0	



HEDGES.

HEDGES have at least the merit of antiquity to recommend them. Did they supplement or take the place of the ancient landmarks, the removers of which were threatened with the direct curses of the law? That these hedges were strong and well grown we know as they would turn "the wild boar of the wood" and the "beast of the field," and this without wire to protect! Hedges must be looked at from two points of view—as fences and as protection, the latter particularly when the fields enclosed are grazing lands.

Possibly nothing is so picturesque as a wild straggling fence festooned with Honeysuckle and Bryony and ablaze with wild Rose and in later months the luscious Bramble. The changing leaves in the autumn provide many a charming bit of colour for the landscape painter, but it is not to his needs we minister. To a well bred farming eye such a fence is a nuisance—the harbourer of all that is undesirable and a great encroachment on good land. An ideal hedge should combine great powers of resistance in compressed form; every branch and twig should tell, and the whole should be neat and trim, as though moulded. If this were borne in mind by hedge planters their successors in

years to come would have less occasion for complaint. We have, however, to take the hedge as we find it, and make it fulfil its purpose in the economy of the farm. Occasional trimmings will suffice, until, by reason of age, unsightly gaps caused by dying or overgrown wood appear along the bottom. In the face of pressure of work sometimes these places are temporarily mended, but very "temporary" the mending of en proves, drastic measures had better be taken at once.

About these measures farmers often go in a very half-hearted sort of way; pressure of time or money, or both, are the reasons pleaded. An easy way at first often proves a difficult one in the end; the future is so seldom considered. And so those men will find out who resort much to what is known as layering—*i.e.*, half cutting a strong stem and intertwining it with the next. This is quickly done, and the new wood grows rapidly, needing little protection; but, bear in mind, the new shoots are from broken injured wood. A similar fence taken clean off apparently is long before making a start, and needs and must have good strong protection. But at the end of seven years it will not take a professional to decide which is the better fence. The former, which made rapid growth to begin with, will be found to be decayed in parts—*i.e.*, those branches that were cut or split, although sending out shoots at first, will be found to be quite dead, and their removal will cause gaps that no after treatment will remove. The latter will be a good, sound, strong fence from end to end, needing very little attention for many years, the growth being from the roots of young vigorous wood.

Farmers raise great objections to the trouble of protecting the young fence. Still it must be done, and done thoroughly. The best plan is to make what is called a "beard" of strong rough Thorns. A trench must be dug at least a foot deep, and the Thorns packed in straight, upright and thick as possible. This well done makes an impervious barrier, which will daunt any stock, or turn back the most arrant trespasser. A strand of barbed wire on the top (if you do not live in a hunting country) makes assurance doubly sure. Some people lay the Thorn "beard" sid-ways and bind them down to stakes, but experience of country life shows an observer how easily such a fence may be broken, and that with reasonable care a petticoated woman may get over anywhere; it is generally man that makes the first break, cattle will speedily follow.

Never go rashly to work at a high old fence; consider whether you need some of it for shelter from sun or storm, and take down a little at a time. It may look "patchy," but you must have some provision for stock, and a portion of the hedge left is better and cheaper than anything you can make. A treeless country looks naked; rather let it be so than encourage hedgerow timber. In pasture land how sour and rank the grass is under trees, and on arable the bad effect is even more apparent. Not only do the roots draw off all nourishment from the crop, but the branches afford much harbourage for wood pigeons and the like. An old Yorkshire farmer said there were three things he hated to see—a big cutting out of a haystack, a dog under a kitchen table, and an Ash tree in a hedgerow.

Hedges are often as much hurt by kindness as neglect; indeed, a little judicious neglect is advantageous sometimes. On some soils quick wood grows well and strongly, now trim and make neat to your heart's delight. On other land the growth is, as it were, only on sufferance, the plant weak, and cannot bear much pruning; neither can it bear too much cleaning at the root. The bit of grass and rubbish alike keep off the hot summer sun and winter frost. To the sportsman another consideration arises—too much hedge "titivation" leaves little suitable ground for partridges to nest in. About the trimming of hedges, the Yorkshire method (and by long experience we have proved it a good one) is to slash the hedge *downwards*, causing it to assume a triangular shape, the base being the smallest side Δ . Cutting *upwards* tends to make a hedge barrel-shaped, and leaves great possibilities for holes at the bottom.

It is marvellous to what dimensions quick thorn may attain. Round the garden of one farmhouse on high Yorkshire wolds the hedge towers above the chimney pots, making an effectual barrier against cold stormy winds. The owner is so proud of it that there is an understanding with the tenant that on no account is it to be meddled with—*i.e.*, shortened. Another instance of curious growth where a strong fence was needed but low, that the view might not be shut out, was seen where the hedge was cut flat at the top, making a perfectly level surface

2 yards wide. The farmer's wife, with an eye to utility before beauty, made it her bleaching and drying ground, and a first-rate one it was. A hedge need not of necessity be of Quick Thorn. A Holly hedge is both attractive and effectual. Beech has the good quality of keeping most of its leaves on throughout the winter, and thus affords shelter. For purely ornamental purposes there is nothing handsomer than Privet or Yew. As these notes are being written the eye rests on a Yew hedge at least 9 feet high and 5 in width, perfect in symmetry and form.

In various districts the price of taking down hedges differs, it is usually piecework, and is paid for by the chain. The strength of the hedge has to be considered, and likewise the amount of protection needed, and the price may vary from 1s. to 2s. 6d. per chain. A farmer may fairly estimate that his fencing all round on a mixed occupation will cost him about 1s. per acre per annum.

WORK ON THE HOME FARM.

Where the lighter soils have been well moved, they are now beginning to work freely, and where there is any material to get off (which will hardly occur on well-managed land after the favourable weather of September) a useful "stitch in time" may be accomplished. Where Wheat has been harrowed it should now be rolled, and if the genial Thistle be absent the gate may then be shut until harvest, and what a relief it is when the gate is shut only the farmer knows.

Swedes are beginning to run to seed, and if wanted for later use they should be taken up at once and stored; they will rapidly become woody if allowed to remain in the ground, and although they will sprout and grow a little after being lifted, the loss of succulence will not be so great. N.B.—The sprouts of Swedes boiled are even more delicious than Seakale, which they much resemble. Roots are not so plentiful as was thought, and there is more inquiry for them in some districts. The forward state of the pastures, however, will effectually prevent any pinch in that quarter.

Potatoes are beginning to grow in the pies, and if not soon moved there will be a great increase in the labour of sorting; where the sprouts are not too long we have found Shore's riddle of great service, as it knocks off the sprouts and saves much handling. There is a great difficulty at present in getting an offer for anything except Potatoes of the finest quality, and the grower may have no choice but to "hold on." There has been quite a panic in the trade, and it has been hardly possible to find one optimist. As it is the unexpected that always happens, will April see a reaction? It may.

Bad as the prospect is for the Potato holder, Carrot holders are in a worse fix; unless they are required for consumption at home by stock, in many cases they will never be used at all—another instance of over-production. There is another farm vegetable for which a heavy amount of labour is required, that this year has paid excellently; we mean Celery. The plucky individuals who, in spite of losses by frost in previous years, have persevered and stuck to the ship, have had a rich reward. *Verb. sap.* Do not all go mad on Celery trenches this year.

And so the Rose grower of Worksop agrees with "Farmer" that small holdings and allotments are not the "summum bonum" of the agricultural labourer. Nothing is more annoying than to be obliged to let a man off for a day or more just when his services are the most needed on the homestead, especially when it is remembered how often in a slack time employment has been found (at some little inconvenience) for the said man. If a man, by some rare chance, have not a large garden, then let him have an allotment, but it must not exceed one rood, as a large plot will prevent him doing his duty to either his master or to his land. The best-managed allotments we ever saw were in 1-rood plots, but even they got into the hands of the small tradespeople, carriers, woodmen, and so forth, and we can hardly recall the name of one farm labourer pure and simple who was a tenant—certainly there was not one from a 600-acre farm in that parish; it was a farm where men rarely left.

METEOROLOGICAL OBSERVATIONS.

OAMDEN SQUARE, LONDON.

Lat. 51° 32' 40" N.; Long. 0° 8' 0" W.; Altitude 111 feet.

DATE.	9 A.M.					IN THE DAY.				Rain.
	Barometer at 32°, and Sea Level.	Hygrometer.		Direc- tion of Wind.	Temp. of soil at 1 foot.	Shade Tem- perature.		Radiation Temperature.		
		Dry.	Wet.			Max.	Min.	In Sun.	On Grass.	
1896 February.	Inchs.	deg.	deg.		deg.	deg.	deg.	deg.	Inchs.	
Sunday .. 9	30.219	47.9	47.7	W.	41.0	55.0	43.0	81.1	41.8	0.010
Monday .. 10	30.440	35.3	35.3	N.W.	41.0	49.4	34.9	67.0	32.3	—
Tuesday .. 11	30.493	41.0	40.7	W.	41.6	50.4	35.1	73.9	34.1	—
Wednesday 12	30.345	40.0	38.9	W.	41.5	55.8	38.1	86.9	33.0	—
Thursday .. 13	30.443	41.1	42.6	N.	41.9	50.0	40.1	80.7	35.9	—
Friday .. 14	30.512	39.6	35.8	W.	41.7	43.4	35.6	47.1	27.2	—
Saturday .. 15	30.434	41.9	40.1	N.	41.2	48.4	39.5	55.1	34.2	—
	30.412	41.4	40.2		41.4	50.3	38.0	70.3	34.1	0.010

9th.—Rainy from 4.30 A.M. to 9 A.M.; generally sunny after 10 A.M.

10th.—Foggy morning; a little sun at midday; cloudy afternoon.

11th.—Fine and frequently sunny, especially in afternoon.

12th.—Bright sunshine throughout.

13th.—Sunny morning; generally cloudy in afternoon.

14th.—Overcast all day.

15th.—Overcast throughout.

A warm week for the time of year; almost rainless, very calm and very sunny.—

E. J. SYMONS.

VEITCH'S CHINESE PRIMULAS.

VEITCH'S SUPERB FRINGED RED ..	Per Packet, 2/6
VEITCH'S SUPERB FRINGED WHITE ..	Packet, 1/6 & 2/6
VEITCH'S SUPERB FRINGED MIXED ..	
VEITCH'S CHELSEA BLUE ..	Per Packet, 2/6
VEITCH'S CHELSEA CRIMSON ..	Per Packet, 2/6
VEITCH'S CHELSEA SCARLET ..	Per Packet, 3/6
VEITCH'S CHELSEA ROSE ..	Per Packet, 3/6
VEITCH'S GIGANTIO RED ..	Per Packet, 2/6
VEITCH'S GIGANTIO ROSE ..	Per Packet, 3/6
VEITCH'S GIGANTIO WHITE ..	Per Packet, 3/6
THE QUEEN AND HYBRIDS ..	Per Packet, 3/6
VEITCH'S SNOWFLAKE ..	Per Packet, 2/6
VEITCH'S DOUBLE RED, SCARLET, ROSE, WHITE, and MIXED ..	Per Packet, 2/6
VEITCH'S SPECIAL MIXTURE OF THE ABOVE (Double or Single) ..	Per Packet, 3/6 and 5/-

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"Amidst such excellence it is difficult to particularise, but of the blooms before us we should say Chelsea Scarlet, Chelsea Rose, Chelsea Blue, Gigantic Red and White, with the firm's Double Red and Rose were of the choicest, though all the others are sufficiently good to include in every collection."—*Journal of Horticulture*, February 20th, 1896.

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BALSAM, WILLIAMS' SUPERB ..	1/6 & 2/6
BEGONIA (extra choice) ..	1/6 & 2/6
CARNATIONS (extra choice) ..	1/6
COCKSCOMB, WILLIAMS' PRIZE STRAIN	2/6
CALCEOLARIA, WILLIAMS' SUPERB ..	1/6 & 2/6
CINERARIAS, WILLIAMS' SUPERB ..	1/6 & 2/6
CINERARIA ALBA ..	2/6
CYCLAMEN GIGANTEUM (mixed) ..	2/6
GLOXINIA, WILLIAMS' SUPERB ERECT	2/6
PANSY (show varieties) ..	1/6 & 2/6
PETUNIA, WILLIAMS' SUPERB STRIPED	1/6
PICOTEE (extra choice mixed) ..	1/6
PINK, SUPERB (mixed) ..	1/6
POLYANTHUS, GOLD LACED ..	1/-
PRIMULA, WILLIAMS' SUPERB ..	1/6 & 2/6
PRIMULA, WILLIAMS' (mixture of 6 vars.)	1/6 & 2/6
PRIMULA, DOUBLE (mixed) ..	2/6
STOCKS (splendid assortment)	
VERBENA (choice mixed) ..	1/6
ZINNIA ELEGANS, DOUBLE ..	1/6
COLLECTIONS OF HARDY ANNUALS	1/6, 3/6, 5/6, 7/6 & 10/6
COLLECTIONS OF HALF-HARDY ANNUALS	3/6, 6/6 & 10/6

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A NEW MAIN-CROP VARIETY.

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Mr. JOHN KEELEY, The Gardens, Parsonage Manor, reports:—

"Mrs. Hill had 14 lbs. of THE SUTTON FLOURBALL POTATO which I planted on March 4th, 1895, and lifted 140 lbs. of splendid tubers. I have sent you a sample of the crop, but I have had tubers half as large again as I am sending. Out of the 140 lbs. I had not one bad Potato, and only two gallons small. The garden they were grown in lies low, in fact adjoining a water meadow, which is naturally low and cold. I am sure it needs only to be more widely known to ensure a great future for THE SUTTON FLOURBALL. Of the many different varieties I have grown, none excels it as a cropper and table Potato."

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Journal of Horticulture.

THURSDAY, FEBRUARY 27, 1896.

WAGES AND WANTS.

ONE view only of this question I shall endeavour to express some thoughts upon, and in the expression venture to hope that it may not, will not necessarily be taken as a one-sided view. Probably there is no reason why diffidence should prevent any phase of the subject being discussed, provided that it is approached in a temperate and comprehensive spirit. There is much to be said on both sides of this contract between master and man; and granted that all could be said that is to be said by all concerned, it may well be asked what good can result even in the most exhaustive discussion of things which are controlled by uncontrollable influences?—of matters which are ruled by the economic laws of supply and demand, which in itself is power sufficient to neutralise all the arguments we may endeavour to clinch by facts and figures. From this interpretation the answer may be promptly given "useless."

Lest it be inferred from the above remarks and from the fact, which may here be stated, of the writer being a gardener that the attention of wage earners is only claimed for the airing of a grievance, I may at once say decisively, No! Such is not the case. The sole object is to show a view screened to some extent by the prevailing conditions of life, to the end that advantage may be taken or due acknowledgement given to matters as they are and not as they seem. With a feeling daily fed by the rampant spirit of unrest stalking over three parts of our planet, that we know not the day nor the hour when its malignant influence may change all for the worse, it is wise, ere too late, to compare the actual present with a possible future.

This supply and demand, moreover, in its unsatisfactory ratio but too apparent, may not be so potent a factor in the wages question as a superficial view thus places it—that is, so far as it affects private gardens in the British Isles. We notice the preponderance of supply over demand in the matter of men, but we seldom, if ever, see that this results in the contract being reduced to such a low figure, that the cheapest man, so far as wages is concerned, obtains the place.

It would, if possible, be of practical value for our purpose to compare the present rates of pay

with those obtaining in the earlier days of the century. So far as progress in gardening is concerned it is easy to do so, but statistics of pay, if provided, could prove but of little appreciable value when taken from the two ends of the present century, practically the difference in a hundred years. Steam and electricity have so changed the old staid order of things that in bringing the past and the present into conjunction the impotency of figures is apparent. We of to-day who have in exchange for our labours journals, railway tickets, and a hundred little things now become the necessities of life; we who share all the benefits of progressive civilisation, repining the while at bad times, cannot realise the void of life and times when they were not.

Could we bring up the shade of some ancestral gardener and obtain his opinion upon the status of his lineal descendant, what would that be? Possibly, in spite of the grievances we should fondly detail in the ear of our Rip van Winkle relative, he would bid us know that we are exceedingly well off. Probably, too, the old gentleman would air a few ancient grievances, long passed out of history, which enter not into our calculations. One conclusion arrived at from occasional but faint glimpses of the long ago, so far as the supply and demand is concerned relative to situations, is that we are neither worse nor better off than our forefathers. Our difficulties under that head are but the common multiple of increased population and advanced conditions.

Energy and thrift must, I think, have been conspicuous in those days, for they could hardly have formed the era of the easy-going times we are apt to compare with the present hard (?) ones. These were of later date, and are the more vividly brought home to us through our being but in the stage of compulsory conversion. Here is the picture of a young gardener a hundred years ago. The sketch was drawn for me by an octogenarian friend in a flourishing Lancashire nursery some years since. "My father footed it from Scotland and was engaged as gardener in this neighbourhood to a lady whom it was 'impossible to please' (he was told), but he stayed, and when, having saved a few pounds, rented an acre of this ground (the nursery) on which stood an old stable. This stable was his lodging for some years, and there he toiled and thrived on the frugal northern diet, adding acre by acre and eventually buying it out. Then the stable gave place to a comfortable, roomy dwelling house, and when the first—the actual first—line of railroad split the nursery into two portions, the value of this freehold was estimated at close upon £2000 per acre."

Picture this brave-hearted, wise-headed, impecunious lad, after his weary tramp, thankfully accepting the vacant situation at a wage which we now-a-days should look upon with contempt. That there were hard times a hundred years ago I have no reason to doubt; yet if our ancestors had "no more doublets than backs" they felt not the need of them. Certainly, in one respect they had a distinct advantage, for they were not beset by a hundred roguish wants lying in wait for the well won pound; whereas this guerilla band persistently accompanies us on the march of progress.

Some unpleasant reflections arise from very stern facts which have lately been shown by a correspondent in these pages (simple facts without comment), that is, the pay of Continental craftsmen at the rate of 7d. per day. It is a painful side to the wages question, we cannot but feel that it is so; and from that reason it is mentioned but not commented upon here, for it does not affect this phase of the subject (private gardens) any more than does the question of Coolie labour. Sooner or later, in more or less degree, it may become of pertinency to trade growers, but its relevancy to our present subject is, and may continue to be, but fractional.

But it does behove us to pause and consider our present position, to the end that due advantage may be taken of what we have. We may not, as a class, have attained to the height of prosperity, but it is more than possible that the highest the present generation will see is an accomplished fact, this being, necessarily, affected by our modes of living and views of life. Opinions will widely differ on so broad a subject; it could not be otherwise. There is, possibly,

more pleasure in scanning the horizon for a good time coming than in seeking for it in immediate surroundings—our poor little present. Can the gardener of to day, of the class of gardeners alluded to, dare to hope that higher rates of wages will reward his skilled efforts? I think not. For specific reasons a pessimistic view shall now be taken, and the question asked, How would matters stand if the peaceful conditions under which we work, and live, and grumble, were suddenly reversed? Gardening is essentially a peaceful art, flourishing under the benign influence. It would be superfluous in these brief thoughts to enter upon side issues—of a stimulus afforded to some portions of a country's industry during the struggles of war. Out of evil comes good; but it would take a wide stretch of imagination to see any prospective benefit to us.

It may be admitted that good practical men are by their economical management establishing their position on a more solid basis than has hitherto prevailed, but we cannot ignore the fact that there are thousands of places in which gardening is still regarded as a luxury, and only maintained at their present standing under co-existent conditions. Consequently, though not exactly having what we like, or as much as we like, is there not wisdom in learning to like what we have? Indeed, it is not so much the question of having as it is that of spending, and herein lies that vexed problem to many a man of making both ends meet. Our boys want "bikes," the girls want pianos; in fact, in this inventive age there is no foretelling what new wants will be created for to-morrow. By these or similar means may we go to the root of bad times, and bad they will remain unless some root-pruning foreshortens or entirely removes some of this luxuriant growth. Well for us if they remain bad (?) and never get worse.—THE GARDENER.



CATTELEYA PERCIVALIANA, INGRAM'S VAR.

THE varieties of *C. Percivaliana* are not by any means numerous, but all are very beautiful, and worthy of positions in every collection. Probably the latest addition to these is *C. P. Ingram's* variety, which is depicted by the woodcut (fig. 26), and was staged at the January meeting of the Royal Horticultural Society by C. L. N. Ingram, Esq., of Godalming. The general appearance of the bloom is decidedly handsome and the substance, on closer examination, left little to be desired. The sepals and petals are attractive in form, and of good size, the colour being a clear rose. The lip is especially handsome both in shape and colouration. This organ is margined with rose round a large central blotch of rich velvety brown, which has numerous orange yellow markings. The throat is bright crimson. An award of merit was recommended by the Orchid Committee of the Society for this variety.

ORCHIDS *versus* WILLOW ROOTS.

I WOULD fain ask a question of our Orchid growers *re* the above. It would appear that Willow roots chopped small are recommended by a gardener in this neighbourhood as a mixture for Orchid potting. As I had not previously been aware of the beneficial qualities of these roots for this purpose, I should be glad of a little enlightenment on this interesting point. It need hardly be said that to let this become general as a substitute for peat, we may soon expect to find Willows as scarce as they are plentiful now. I understand that *Peristeria* *caerulea*, that beautiful dove-like flowering Orchid, appeared under this treatment in a thriving condition and full of vigour.—GEO. DYKE, *Stubton Hall Gardens*.

NOTES ON ODONTOGLOSSUMS.

FROM the nature of the frequent queries that are answered in the Journal, from remarks dropped in conversation with amateur cultivators, and above all by the wretched appearance of the plants in collections where their wants are not properly catered for, it is obvious that these beautiful Orchids are not quite so easily

managed as some dealers in them and others would have us believe. How often we hear that these and other kinds are easily grown in a greenhouse, flower as freely as a Geranium, and so on; the inexperienced amateur, fired with the ambition to become an Orchid grower, at once comes to the conclusion that these are the very plants for his greenhouse, where among Pelargoniums of various kinds, Azaleas probably eaten up by thrips, and the usual run of plants so frequently met with, he grows a few Tomatoes in the summer, and Mustard and Cress in the winter.

The kind of atmospheric conditions that obtain in houses of this description are only too well known—dry, and parched in summer, with draughts innumerable all the year round. Here, then, are these Orchids—natives of alpine regions, where they grow enshrouded in mist and a cool moist atmosphere, rarely at so high a temperature as an ordinary English summer heat, and never anything like so cold as our winter, but always genial and mild—expected to grow and thrive. Long-suffering under difficulties as they undoubtedly are this proves too much for them, and, instead of thriving healthy plants, we see miserable, half-starved insect-infested ones; where there should be large vigorous flower spikes with twenty or thirty blossoms, puny bits with two or three are to be seen. This is the way *Odontoglossums* thrive in a “greenhouse,” as the term is usually understood, and no amount of care in watering, potting, shading, cleaning, and other cultural details can alter it.

The sooner amateur cultivators understand that the atmospheric conditions of the house wherein are grown any kind of cool Orchids are of even greater importance than any other of the details referred to, the better it will be for their plants. Get these latter well up to the light in winter, and keep them just comfortably warm and always moist, shade them, and damp the house time after time in summer, not forgetting a frequent syringing, and a regular and constant supply of fresh air, and the resultant growths will be, without a doubt, highly satisfactory. The pseudo-bulbs will swell to their full size, the foliage will be stiff and rustling to the touch, and above all the blossoms will be produced in such abundance as to more than repay the trouble taken.

I have not touched upon the matter of compost, or time and manner of repotting, partly because they have been frequently descanted upon in these pages, and partly also because I am of the opinion that in nine cases out of ten it is the atmospheric conditions that are wrong. As a rule, too, the plants when received from nurserymen are right in the former respect, yet these suffer in just the same way. From the consideration of such collections as described it is pleasant to turn to that of an interested and very successful amateur whose plants I recently saw. To enumerate all that were in good condition would take up too much space, but the kinds named below were all in flower, the result being an extremely bright and varied display.

Nothing but *Odontoglossums* were grown, and the kind most freely represented was the chaste and beautiful *O. Pescatorei*, the charming blossoms of which have just enough colour in them to enhance the purity of the snow-white sepals and petals. Both the old branching forms and the newer varieties with simple spikes of large flowers were included, and they are both equally beautiful. *O. crispum* in its varying forms are hardly less so, but yet I think lack the elegance of the former kind to a certain extent. The roseum section was represented by several plants, that make a very pleasing contrast with the white ground varieties. *O. triumphans*, *O. luteo-purpureum*, and *O. tripudians* are a trio of easily grown yellow flowering species, very constant in flowering, while *O. maculatum*, although of a quieter tone of colouring, is useful on account of the length of time the blossoms last. This is also a characteristic of the better types of *O. Rossi*, and it is not unusual for plants of this kind to last in flower for over three months.—H. R. R.

PLEIONES.

THIS group of very dwarf, large-flowered Orchids is now generally included under the genus *Cœlogyne*. The plants, although quite beautiful, are seldom seen in America, and deserve to be grown even in choice collections. They are natives of Assam, Nepal, and Sikkim, and are plants with shrivelled pseudo-bulbs

close to the ground and deciduous foliage of a membranous texture. The flowers are produced in great abundance, but are almost sessile and solitary white or rose coloured, with or without yellow veins in the lip.

Some forms are exceedingly showy, others are chiefly of botanical interest. All flower freely under cultivation—almost resembling certain varieties of *Crocus* when seen at a distance. The flowers appear before the leaf, or, in other words, during the period of rest, which occurs at different times for different species. *Pleione lagenaria* is the most common. The sepals and petals of this species are of a rosy lilac, the lip being pure white, with yellow and crimson bars and veins. The leaf is solitary, membranous and plaited, springing from a peculiar wrinkled, bottle-shaped pseudo-bulb. *P. humilis* is another common kind, with flowers smaller



FIG. 26.—CATTLEYA PERCIVALIANA, INGRAM'S VAR.

than those of the first-named species, almost white, with the lip marked with brown and crimson or yellow. The flowers are numerous and appear late in the autumn. *P. maculata* is one of the finest of all, with pure white sepals and petals and lip barred with crimson and yellow. *P. Hookeriana* is one of the smallest of the section, very dwarf, with rose-coloured flowers produced in spring, at the same time as the leaves.

All the species do best in shallow pans, in equal parts of chopped peat, sphagnum and silver sand, and an addition of well-decayed cow manure. A cool, airy position is most suitable to them. During the growing season an abundance of water should be given, and then gradually withheld as the young bulbs have reached a normal size. The plants should then be allowed to rest until the buds begin to appear.—N. J. R. (in “Garden and Forest”).

PHAIUS GRANDIFOLIUS.

THIS old but useful Orchid, so often despised by those who are ever on the look out for novelties, proves to be an invaluable plant for conservatory decoration. If kept on the dry side while in these structures the complete rest while in flower is very beneficial. In repotting I shake the whole of the old soil from the roots and place the plants in a compost of loam, peat, sand, and a little decayed manure. After potting care is needed at first not to give them too much water, and the syringe should be used with caution. If scale is noticed on the leaves sponge thoroughly before potting.—O. G.

QUESTIONS ON GRAPE GROWING.

HAVING read with some degree of interest the paper by Mr. Colebrooke (page 122, February 6th), I give the result of my own experience. "R. P. R." asks—First, "Is the circulation of air through the bottom of a border beneficial or not?"

In the garden in which I served my apprenticeship two large vineries were erected, added to a range of three already standing there, "one at each end, with a plant house in the centre." They were built, I think, by Messenger & Co. The roofs are of iron, hip-span, with broad squares of glass, ventilated their full length, back and front. They were in course of erection at the time of the Franco-German war. The soil in that garden is of a heavy retentive nature, resting on a subsoil of clay. I have good reason to remember this, as it fell to my lot to assist in trenching a portion of the garden, as well as to help to make the Vine borders.

They were not made V shape, but sloping upwards from front to back, and the bottom of the border thickly concreted. On the concrete was placed a foot or more of open drainage, and drain pipes about 8 inches in diameter laid in it at certain distances apart. At the front of the border traps made of bricks were built up about a foot square inside, and nearly as much above the surface, with small trap doors to open and shut as required. One trap to each row of pipes. The borders, which were about 4 yards wide, were composed of turf cut from the roadside, and of rather a sandy texture, old mortar, half-inch bones, and leaf mould, thoroughly incorporated by twice turning before being wheeled in to form the borders, which were made up entire and at once for appearance sake.

The Vines, which were raised from eyes and grown on the place, were turned out of their pots and shaken but not washed out, and their roots laid straight in the new soil. They grew strongly and soon made good Vines, which, as they came into bearing, produced fine crops of fruit, large both in bunch and berry; but after about three years bearing some of the fruit shanked. The borders were protected with fresh stable litter during the winter. The two older houses in the same range had their borders renewed, and planted with young Vines in the same way as the two new houses, excepting the air drains, these not being added to the borders. The Vines in these houses did equally as well as the others, and side by side with each other as before stated.

I feel perfectly satisfied, speaking from the experience gained by this single example, that we must look elsewhere for success or failure than to air-drained borders if we wish to grow Grapes of the highest quality. I have made many borders and planted a large number of permanent Vines, but have never adopted the above system simply because I have never yet been able to see the utility of it.

2nd. "In planting, is it desirable to wash away the soil from the roots?"

That depends largely on the condition of the roots. If the presence of the dreaded phylloxera is suspected, I should say, Yes, by all means. "Water is the only vehicle by which anything can reach the roots of plants; and so far, water, where it can be applied in quantity and for a long time so as to suffocate the insect, has proved efficacious in destroying this pest. It has been noted that in nearly every instance the insect has only existed in warm and probably dry inside borders. In moist or outside borders, where abundance of water has been supplied, little or no phylloxera has existed in this country."—Barron.

Water is thus one of its greatest enemies. Wash out these in more than one lot of tepid water, if its presence is suspected in your young Vines, before planting. Again, if a Vine has been growing for some months in a pot, its roots will of necessity grow round and round in a cramped position under such circumstances. If I found that they could not be readily separated without injury, the washing-out process would instantly be resorted to. Vines bought from a nursery would also receive the same treatment; but if I had to raise and grow my own from eyes, I certainly should use my utmost endeavours to plant them out before their roots had reached such a condition as to require washing out. I have planted numbers both ways, and am therefore able to speak confidently that those which can be safely planted without undergoing the washing-out process make headway more quickly than do others that are washed out.

3rd. "Is the use of wood ashes and leaf mould to be commended in making borders?" I can testify to the good effects of leaf mould and wood ashes not only for Vines, but for other kinds of fruit also, as Apples, Pears, and Peaches and Tomatoes. I grow a span-roofed house full of Tomatoes in 12-inch pots, and use more than a 7-inch potful of wood ashes to each plant, besides charcoal, and with the best results; but "with the Editor's permission" I will give my mode of growing Tomatoes with results in a short article devoted exclusively to them. [Granted.—ED.]

In the formation of Vine borders, and especially if the loam is of a heavy texture inclining to clay with little sand, so that after the borders have been made a short time it is liable to run together like that with which I had to deal on the borders of Yorkshire, I should certainly incorporate leaf mould (carefully prepared without sticks or bits of wood of any kind, for it is leaf mould not properly prepared that does harm in Vine and other borders, breeding fungoid pests), wood ashes, charcoal, old mortar, broken bricks, and even good river sand if procurable, for if we would grow Grapes satisfactorily, that is of fine flavour, rich in colour, solid with bloom, and above all entirely free from shanking, we must maintain a healthy root run, free from stagnation, sourness, or starvation.

I knew a very successful exhibitor who had turf of such a nature that it could be dug 6 inches thick, full of beautiful fibre and of such a texture that on one occasion when I had visited him I picked up a large piece, and after examining it kicked it before me right across a large field as I returned home. Here was soil for Vines if you please, abounding in nitrogenous matter and not likely to grow pasty or run together. If I had such soil as that to deal with I should keep my wood ashes near, not on the top, and should not use leaf mould, but water freely with tepid liquid manure drained from a manure heap, and that is just what my friend used to do, and need I say with the very best results, as his success as an exhibitor abundantly testified.

Notice. I have just said that my friend put his wood ashes near the top. Why? In order that they should be influenced by the nitrogenous elements contained in the soil. They supply phosphates and potash, but are said to be much more effectual when under the influence of nitrogen. And I think Munro confirms this idea when he says, "Applied without nitrogenous manures wood ashes do not usually produce much effect, except on Turnips, &c., and so are best utilised as ingredients of a compost heap. Rotten leaves are much better than burnt, because the nitrogenous organic matter is preserved." That the Vine cannot produce fruit without potash, though every other essential element of food be present, has been satisfactorily demonstrated, for Munro gives an illustration of Vines grown in pots with which he proved this fact. The following is the footnote to his illustration.

"Vines grown in manure destitute only of potash produce little or no fruit, practically no crop. Vines grown without any manure produce a few shrivelled Grapes, practically no crop. Vines grown with 'normal' or complete manure produce at the rate of 4 tons 15 cwt. of Grapes, giving 848 gallons of must per acre." This quotation shows how necessary potash is. Of course, I thoroughly understand the different sources from which potash is derived, and use some of them. But do not wood ashes, which yield from 5 to 15 per cent. of potash, serve a double purpose? For while yielding an essential element of plant food, they also help to open the soil and keep it open.

Respecting garden soil for Vine borders, I do not consider that it is necessary in every instance to clear it away, and go to the expense and trouble of carting soil from a distance into its place. I am inclined to think that this is often done when the soil on the spot might be utilised with equal advantage and perhaps more successfully. The good soil full of humus having to give place to that of an inferior quality just because it does not happen to be turfy. Surely soil that will grow good Apples, Pears, and Peaches, will grow good Grapes also; and if not, then why not? A moderately good local soil can be improved on the spot just as well as that which is brought from a distance is improved on being made up into a border. We improve such—in fact, often have to—for the above named fruits; why not for Vines also?

I know Vines—more than one, two, or three—that grow on the fronts of cottage houses and close to the public highway with foot-paths pitched with pebbles up to the very stems of the Vines; yet they grow, and produce good crops of fruit, and have done for a generation at least. I have in my mind's eye at this moment some very large Vines thus situated. I knew them for years; they produced fruit that were made into wine for a gentleman's table. He used to buy the fruit from the cottagers and make the wine himself. These Vines had no elaborately prepared border, but were simply "stuck in" many years ago, and allowed to take their chance. If such turf as I described my exhibitor friend had at his disposal, that could be kicked half a mile, and the more it was kicked the more it showed its fibre, like kicking a wool mop, could always be procured, I would say, Change what you have for it by all means. But unfortunately such a soil is the exception, not the rule.

Should any reader of these notes, as the result of his experience, have reason to object to the use of wood ashes and leaf mould in making up new Vine and other fruit tree borders he would oblige by giving his reason and the result of his experience in a short note on the subject.—W. WEST CHAPMAN.

"FREELY RECEIVED," THEREFORE —

You who have little garden plots, you with broad parterres, you with ranges of glass, remember in these bright spring days those less fortunate brothers and sisters whose lives are spent in the busy city among bricks and mortar, whose only chance of flowers is by purchase. Their love for the beautiful is as keen as yours, and the love that prompts the gift of a few spring blossoms makes that gift doubly dear.

Look just now at the wealth of Snowdrops in your borders, among your orchard grass, along the side of the plantation. Do you grudge a few packed carefully in a small box with some Ivy leaves to eke out the scanty greenery? It is so satisfactory to send flowers that travel well, and most spring ones come under that category. Presently, if not already, there will be the sweet-scented Violet. Children are eager and willing helpers, and can soon be taught to gather and tie up the fragrant little bunches. Daffodils will bear much travel, and make such a glorious note of colour in a dark room.

Primroses will touch a chord that may have been silent for years, reminding the receiver of happy childhood days when the first Primrose was such a treasure and such a prize. To those who can afford the luxury (for it is a luxury) how delightful to be able to take a nice pot plant from an overflowing greenhouse. If not quite developed, so much the better. A weary convalescence may be cheered by the sight of the opening floweret, and in spring there is choice of so much. A pot of Crocuses is brilliant as burnished metal, a bit of *Spiræa* with its lovely contrast of pure white and shining green, and so on through a long list.

It seems so sad to heap upon the cold grave the loveliest emblems of life, emblems which might have gone to cheer the suffering one on his dreary passage to the gates of death. "If ever you hear I am ill," said one friend, "send me flowers; they are my greatest comfort. Do not wait till I am dead, I shall not care then." It is sometimes tiresome and inconvenient to send off the little posies, but remember the little act of self-denial is good discipline for you, and it is noted by Him whose loving hand so lavishly provides you with these gifts of which you are but the steward.—THE MISSUS.

INSTABILITY OF PLANT NOMENCLATURE.

THE Rev. C. Wolley-Dod, whose kindness in many ways I so often experience, has been at the trouble of writing me with reference to my note on this subject on page 162. As Mr. Wolley-Dod is an authority upon these questions I feel bound to say that he tells me the inconsistencies of the *Kew Hand List of Herbaceous Plants* are very few, and from what he says I have been in error in some points. I do not know that I am at liberty to quote the concise explanation given by him regarding the complicated rule as to the use of capital letters, but he will perhaps allow me to give the gist of what is apposite to my remarks upon the names of the *Campanulas*—i.e., that in the case of proper names, where the name is turned into an adjective a small initial is correct. Thus in the instances I gave *C. Grosseckii* and *C. Hendersoni* are correctly given in the *Kew Hand List* with capitals, and *C. morettiana* and *C. portenschlagiana* are also correctly printed with small letters. I think it is only fair to the compilers of the *Hand List* to say this, and I hope Mr. Wolley-Dod will favour your readers with an explanation of this complicated subject. I hope to profit personally by his valuable note, which has thrown considerable light upon a difficulty we all have to encounter some time or other.—S. ARNOTT.

[We shall be very much obliged if Mr. Wolley-Dod is able to comply with Mr. Arnett's request. We have not questioned the accuracy of the *Hand List* names, but we drew attention to several of them being in conflict with the rendering of the same names in that monumental modern work the *Index Kewensis*. We gave some instances of divergencies on page 139, January 13th, and desired to know for public information whether the almost new and greater work mentioned was to be superseded by the infinitely smaller but newer *Hand List*. We look to Kew, and the distinguished chief of this national establishment, for authoritative information on this admittedly important subject. We have been in the habit of referring to the *Index Kewensis* as a safe guide in respect of plant nomenclature, but the *Hand List* is not in harmony with it. We can understand the accident of an occasional misprint occurring in either work, though we suspect such accidents are rare; but by no stretch of the imagination can we conclude that eight names taken from two pages only of the *Hand List* that differ from the names of the same plants in the *Index Kewensis* are accidentally rendered in either case. As Mr. Arnett says, "We have

so much good work from Kew, that finding fault with anything emanating from that source is an unwelcome task." It is none the less a duty to point out discrepancies in public works of the nature indicated, while it is obviously legitimate for the public to desire information on the subject.]

ROYAL GARDENERS' ORPHAN FUND.

ANNUAL GENERAL MEETING.

THE members of the above charitable institution met on Friday last at Anderton's Hotel, Fleet Street, to receive the report of the Executive Committee and statement of accounts for the year ending December 31st, 1895. W. Marshall, Esq., presided, and after the preliminary business had been dispatched read the report and balance-sheet, which are as follows:—

The Executive Committee in presenting their eighth annual report, have again the pleasure of congratulating the subscribers to the Royal Gardeners' Orphan Fund on the closing of another successful financial year, and on the continued prosperity of the charity. The income derived from annual subscriptions still, however, gives the Committee some anxiety, the past year's receipts again showing a slight decrease. The Committee earnestly appeal to gardeners for more generous support of the Fund.

By the lamented death of the President, the Rt. Hon. Sir Julian Goldsmid, Bart., M.P., the Royal Gardeners' Orphan Fund has lost a munificent supporter, and his loss is deeply deplored by every friend of the charity. It is with the greatest satisfaction the Committee are privileged to announce that His Grace the Duke of Bedford has been pleased to accept the Presidency of the Fund. The Committee have further to mourn the death of an old member of the Executive Committee in the person of Mr. John Wills, who was, from the establishment of the Fund, one of the most generous supporters.

The Committee have gratefully to acknowledge the receipt of £171 9s. from the "William Thomson Memorial" Committee, being the proportion of the amount collected, which was voted to the Orphan Fund as a memorial of Mr. William Thomson, of Clovenfords, a warm supporter of the Charity, and a distinguished member of the gardening community. The right of voting in connection with this Memorial will be exercised by the Royal Caledonian Horticultural Society for fifteen years. The Committee also most thankfully acknowledge the receipt of a legacy of £100 from Mr. George Taber, and one of £5 5s. from Mr. J. Taplin.

The annual festival dinner, which was presided over by Mr. Harry J. Veitch, proved specially satisfactory, the sum of £592 nett being thereby realised. A most cordial vote of thanks is hereby tendered to Mr. Veitch for his noble generosity to the Charity at all times, and for his able advocacy of the claims of the Fund on that occasion.

Since the foundation of the Charity in 1887, in commemoration of Her Majesty's Jubilee, seventy orphan children have been elected to receive the benefits which it confers. Seven of these have been retired, owing to the age limit, and two from other causes, leaving sixty-one as the number of recipients at the end of the year, to which the Committee recommend the election of ten more this day.

In addition to the payment of the regular allowances, applications were made during the year on behalf of some of the children retiring, for further assistance, according to Rule xiii., and special grants have been made in three cases amounting in all to £21, with the happiest results.

Mr. N. N. Sherwood, in addition to his generous support of the Fund in the past, has very kindly undertaken to pay to the Royal Gardeners' Orphan Fund the sum of £13 a year in accordance with Rule xii., for the maintenance of the child Frederick Barson, as a memorial of the late Mrs. Emma Sherwood.

The members of the Committee who retire by rotation are Messrs. Head, Laing, Nicholson, Osman, Poupart, Smith, Turner, and Walker, and all being eligible they offer themselves for re-election, with the exception of Mr. Turner, who retires. Mr. Reynolds, Acton, is nominated to the vacancy caused by the death of Mr. John Wills, and Mr. J. Lyne, Foxbury Gardens, Chislehurst, in the place of Mr. H. Turner; also the retiring Auditor, Mr. M. Rowan; and the Treasurer, Mr. T. B. Haywood, are again nominated.

The work in connection with the administration of the Fund having greatly increased during the past few years, the Committee have had the matter under consideration, and recommend that a paid Secretary to the Fund be appointed.

The Committee recommend that Mr. A. F. Barron be the Secretary of the Fund, at an annual payment of 100 guineas.

The adoption of the above report was moved by the Chairman, and seconded by Mr. Shepherd, and after a few comments it was carried without dissension. Mr. Poupart proposed, and Mr. McLeod seconded, that Mr. Rowan be again re-elected Auditor to the Fund, and that a hearty vote of thanks be accorded him, which motion was carried.

On the proposal of Mr. Wynne, seconded by Mr. Shepherd, it was decided that the Executive Committee be again re-elected, and that their efforts in the past should receive the hearty thanks of the meeting, Mr. Bates moved that Mr. Reynolds of Gunnersbury, and Mr. J. Lyne, Foxbury Gardens, be elected as members of the Executive Committee to

fill the vacancies caused by the death of Mr. John Wills and the retirement of Mr. H. Turner. Mr. Roupell seconded, and the motion was carried. Mr. T. B. Haywood was unanimously re-elected Treasurer of the Fund, and a hearty vote of thanks accorded to him.

Mr. W. Marshall proposed the election of Mr. A. F. Barron as Secretary of the Fund at an annual payment of 100 guineas. The Chairman said everyone present knew of the valuable services rendered to the Fund by Mr. Barron in the past as Honorary Secretary, and they also knew of his altered circumstances, therefore they had decided to offer him this remuneration, which they trusted he would accept. He, the Chairman, had many times had occasion to go to Mr. Barron's house on business connected with the Fund, and knew that he was obliged to set apart a room entirely for the business of the Charity. Whilst Superintendent of R.H.S. Gardens this was not considered; but now they were agreed that some return should be made for the valuable service rendered, and they were, therefore, prompted to offer him the above-named sum. Several members present spoke in highly eulogistic terms of the services rendered by Mr. Barron as Honorary Secretary of the Fund, and on the motion being seconded by Mr. Weeks, was carried unanimously. Mr. Barron briefly expressed his thanks.

Mr. A. Dean asked whether the annual sum of 100 guineas, which

they proposed paying Mr. Barron, would include the item of £52 10s. now paid to the Secretary's clerk. On being informed that such was the case, and that the actual increase to be paid would be 50 guineas, Mr. Dean remarked that this should have been clearly stated in the report, as it will probably be misleading to many of the members. He further suggested that, instead of making Mr. Barron a paid official of the Fund, it would be more dignified to give him the 100 guineas as an annual honorarium, by which he might still remain an honorary official.

Messrs. Poupart, Weeks, McLeod, and Bates were appointed scrutineers of the ballot papers for the election of children to the benefits of the Fund. Thirteen candidates were presented for the ten vacancies, the following being elected, with the number of votes polled in each case:—Henry Pearman Smith 482, Andrina Brown Ritchie 475, Seymour Small 389, Arthur Henry Worth 384, Blanche Dean 325, Amy Farrant 315, Frederick Pratt 250, Frank Leslie Haycock 235, Herbert Anderson 177, Reuben Charles Stevens 164. In reply to an inquiry made by Mr. A. Dean, it was ascertained that out of the 1300 papers sent out 828 were returned, and that 2577 votes were polled. It is also worthy of note that not a single voting paper was spoiled. A vote of thanks to the scrutineers for the trouble they had taken, and to the Chairman for presiding, brought the proceedings to a close.

CASH STATEMENT FOR THE YEAR ENDING DECEMBER 31st, 1895.

RECEIPTS.				£	s.	d.
To Balance from last Account	...	...	...	829	13	7
„ Subscriptions, General	...	...	...	£333	7	6
„ Ditto Collected by Local Secs.	...	...	...	75	7	0
				408	14	6
„ Donations, including proceeds of Sales of Flowers, Boxes, Entertainments, &c.	...	...	...	163	5	4
„ Ditto, Collected by Local Secs.	...	...	...	51	10	6
				214	15	10
„ The William Thomson Memorial	...	...	...	171	9	0
„ Legacy from Mr. George Taber	...	...	...	100	0	0
„ The Emma Sherwood Memorial	...	...	...	13	0	0
„ Legacy from Mr. J. Taplin	...	...	...	5	5	0
„ Annual Dinner	...	...	...	719	9	4
„ Card Collection	...	...	...	38	7	2
„ Advertisements in List of Subscribers	...	...	...	27	14	0
„ Dividends on Stock and Interest on Deposit	...	...	...	203	19	3
				£2732	7	8

NOTE:—INVESTMENTS, ETC.

2½ per cent. Consols	...	...	...	£7070	6	10
3 per cent. Canada Stock	...	...	...	1500	0	0
				£8570	6	10

EXPENDITURE.				£	s.	d.
By Allowances to Orphans	...	...	...	£798	15	0
„ Emma Sherwood Memorial	...	...	...	13	0	0
„ Grants in Aid	...	...	...	21	0	0
				832	15	0
„ Annual Dinner	...	...	...	127	7	0
„ Printing and Posting List of Subscribers	...	...	...	31	18	6
„ Secretary's Clerk	...	...	...	52	10	0
„ Printing and Stationery	...	...	...	18	11	11
„ Annual General and Committee Meetings	...	...	...	13	11	2
„ Postages	...	...	...	18	12	10
„ Bank Charges	...	...	...	1	13	9
„ Sundry Expenses (Petty Cash)	...	...	...	17	13	4
				122	13	0
„ Purchase of £500 3 per cent. Canada Stock	...	...	...	512	11	0
„ Ditto £500 3 per cent. Canada Stock	...	...	...	505	1	3
„ Balance:						
Cash at Bankers	...	...	...	299	2	1
Cash on Deposit	...	...	...	300	0	0
Cash in hand	...	...	...	0	19	10
				600	1	11
				£2732	7	8

Having inspected the Securities and examined the Books and Vouchers supplied to us, we hereby certify the above account to be correct.

(Signed) JOHN FRASER, LEYTON }
M. ROWAN, CLAPHAM } Auditors.

Dated, January 25th, 1896.

THE SECRETARY'S SALARY.—VOTING PAPERS.

THE intention of the Committee at the recent annual meeting of the subscribers to propose that Mr. A. F. Barron, from the first the able Honorary Secretary to the Fund, should be converted into a salaried official by paying him for his services 100 guineas a year, naturally came as a great surprise to subscribers outside the Committee, although unfortunately these were few indeed. It was also a matter for wonder that some intimation of such most important intention had not been given publicly prior to the meeting. Why it was not so done the Committee can answer. It was left to me alone, none of the executive offering the slightest information, to elicit the fact that after all the proposed salary will not be 100 guineas, but really means an increase of 50 guineas, as I was informed, in reply to a question that the sum of 50 guineas now included in the management expenses for the Secretary's clerk would be included in the sum of 100 guineas. I do not know whether prior to my question being put that was the Committee's intention. I did, however, point out that as the matter stood in the report as a recommendation the general belief would be that the 100 guineas salary would be an addition to the present expenditure. Whether Mr. Barron for the salary of 50 guineas a year paid as a salary, and not given as I suggested as an annual honorarium, prefers to become a paid official to being the far more dignified honorary official is entirely for him to determine.

I do not grudge the sum proposed to be paid, so far from that I believe there should have been a moderate, and with increase of work, gradually increasing salary from the first. The present is a particularly inopportune time for this act for two reasons—first, the Chairman of the meeting referred to Mr. Barron's changed circumstances, which all understood, but which can hardly be said to have changed for the worse. If, however, so much of honorary service was given in the past by the Secretary because of the liberal countenance of the Council of the Royal Horti-

cultural Society, how was it that not a word of thanks to the Council for past exceeding favours was heard? Then the Committee in presenting the annual report in the first paragraph uses these words:—"The income derived from annual subscriptions still, however, gives the Committee some anxiety, the past year's receipts again showing a slight decrease." The italics are mine. If this anxiety and decrease in contributions exist, is it not a very inopportune time to saddle the Fund with so great an additional yearly charge as 50 guineas? enough, be it remembered, to maintain four orphans annually. Therein, at a moment of comparative weakness in income, lies the sting of the whole business.

With a desire to ascertain how much or how little of interest was taken in the election of orphan children on to this Fund by subscribers, I asked at the recent meeting for information as to the number of voting papers issued, and the numbers returned. After investigation the Chairman (Mr. W. Marshall) stated that the numbers sent out were 1300, and the numbers returned 828. That is to say, that less than two-thirds of the papers were returned. What a surprising lack of interest is thus shown in the election of orphans by some 472 subscribers. What is the reason? Do they think that their papers will make no difference to the result? Do they take no further interest in the Fund beyond seeing their names in the subscription list, or what? The matter needs elucidation. Now having got this information I should like to be furnished with the number of voting papers returned duly filled up by the subscribers, and of those not filled up, but left to be manipulated in the interests of special candidates as the polling proceeds. After all, is it not the existence of this abuse of voting which deters so many subscribers from sending in papers? That any subscriber after seeing the statement as to the needs or positions of the respective candidates issued with the voting papers, should practically admit they are incapable of determining which are the most deserving cases, passes my comprehension.—A. DEAN.



WEATHER IN LONDON.—The excessively mild weather has during the last few days been superseded by a spell of cold, more seasonable to the time of the year. While the thermometer has not fallen very low, an easterly wind, which still prevails, renders the air extremely cold and biting. The change, however, is welcomed rather than otherwise as a means of keeping in check vegetation, which was making rapid progress, and, had the mild weather continued, would doubtless have suffered more later on.

— WEATHER IN THE NORTH.—The week preceding the 25th inst. has been variable, with cold winds from the west in the former part, from the E. and S.E. latterly. Rain fell on the evening of the 19th and on the two following days. Sunday was bright, but cold, with 4° frost in the morning, and on Monday 5° were recorded. The morning of the latter day was bright; the afternoon dull, with every appearance of a change to rain.—B. D., *S. Perthshire*.

— ILLUSTRATED LECTURE ON FRUIT GROWING.—A lecture entitled "Fruit Growing for Cottagers," and illustrated with lantern views, was given on Thursday evening last at the Public Hall, Clydach, Swansea, by Mr. John Ettle, gardener, Glais House. Mr. Thomas Powell, Board Schools, Glais, occupied the chair, and in a few well chosen remarks said he hoped the lecture would be an incentive to those present to grow more fruit in their gardens, as fruit was not only very wholesome as food, but fruit growing was healthy as an occupation. In commencing his lecture Mr. Ettle said he intended only taking those kinds of fruits suitable for growing in the Swansea Valley district—viz., Apples and Pears, bush fruits and Strawberries. He then, with the aid of the lantern, gave what may be termed an "object lesson" on the preparation of the soil, propagation by budding, grafting, cuttings, suckers, and runners; planting, giving right and wrong methods; pruning, root-pruning, training; packing fruit for market. He also gave in detail the insect pests of the various fruits, with their prevention and cure; and suitable manures and their application. It is hoped the lecture will be given again in other parts of the district.

— DEATH OF MR. JOHN MORRIS, DUNDEE.—A widespread circle of friends learned, probably more with sorrow than surprise, of the death of Mr. John Morris, on the 15th inst., at his residence in the outskirts of Dundee. In the parish of Mains and Strathmartine his was a well-known name for half a century. He was schoolmaster there till his retirement in 1880, and held several public offices till his death. A man of cultured classical, literary, and artistic tastes, he was a frequent contributor to the local Press, an esteemed counsellor to his professional brethren, and a welcome occupier of the lecture platform. If tenacious of his matured opinions, he was tolerant of those who differed, and eminently possessed the somewhat rare tact to discuss keenly without engendering bitterness. To strict integrity he united a kindly, genial disposition that made acquaintance rapidly ripen into warm friendship. A keen florist of the older school, in earlier years a successful cultivator of several flowers, he latterly confined himself mainly to the Auricula, and till a few years ago, when failing health forced him to part with it, he possessed a large and unique collection. Clinging fondly to many of the older varieties, he added such of the approved newer sorts as kept him abreast of the times, and visitors in great numbers annually dropped in at Ivy Cottage to see the bloom. It was a treat to a real lover of the flower to spend an hour with him at that, or, indeed, at any time, and to see and hear the evidences of his warm attachment to it. His death, at the age of seventy-seven, has caused sincere regret in, and far beyond, the district in which he so long resided, and in the pages of the Journal, where his contributions on the Auricula have over and again awakened the attentions of its lovers, an attached admirer, on behalf of many sorrowing friends, would seek to place this unworthy record of their loss. How the roll of Auricula growers in Scotland shortens! Of one's acquaintances, the majority bound by a much warmer tie, Alex. Meiklejohn of Raploch, Chas. Jeffrey, John Gair, Peter Campbell of Falkirk, Thos. Hastie of Strathaven, G. B. Simpson of Dundee have gone, and now worthy John Morris is called at a season when his letters began to pulse with freshening interest. And how few, how very few, remain!—A NORTHERN AMATEUR.

— OXFORD BOTANIC GARDEN.—Mr. W. Warde Fowler, Fellow of Lincoln College, has been appointed Curator of this garden in succession to Mr. E. Chapman, who has resigned.

— CHESTER HORTICULTURAL SHOW AND FÊTE.—It was accidentally stated on page 163 last week, that the date of the above show is July 15th. The writer of the notification was misled by the boldness of the type announcing that entries close on July 15th, overlooking the much lighter line on the schedule indicating the dates of the exhibition—August 5th and 6th. We must find him some spectacles though we suspect the show itself will be large enough for him to see without them.

— READING GARDENERS' MUTUAL IMPROVEMENT ASSOCIATION.—The fortnightly meeting of this Association was held on Monday evening, when a very interesting and instructive lecture on "Some Common Insects of the Kitchen Garden and Orchard" was given by Mr. James Stewart, Horticultural Lecturer to the Oxfordshire County Council. The lecturer had prepared drawings of various insects, which he showed by the aid of the magic lantern. The discussion which followed turned chiefly on the ravages of the Onion fly and the Carrot fly, and the best methods of dealing with these pests. At the conclusion the lecturer was accorded a hearty vote of thanks.

— CAMELLIAS.—Mention of the collection of Camellias in pots exhibited last week at the Drill Hall, London, reminds me of the attractive show of these flowers I saw about a week ago in the Birmingham Botanical Gardens, and which are at the present time a special feature there. They are all grown in pots, tubs or boxes, and though mostly of considerable age, are in the healthiest condition. A noble looking plant, about 14 feet high and bushy in proportion, of the good old *C. imbricata* was smothered with fine blooms; as usual, the fine specimen of *C. reticulata* was in resplendent array. *Apropos* of the specific name of this variety, somehow I have ever been impressed with the idea that it is not sufficiently significant of the chief characteristic of the variety—that is the gorgeous, *Pæony*-like blossoms, and that, for instance, *pæoniæflora*, might well have been appended to the variety in question, not but what the name *reticulata* suitably applies to the distinct network venation of its foliage. In comparison with its congeners, owing to its somewhat straggling habit of growth and less bright green foliage, when not in flower this variety does not lend itself so readily as an ornamental evergreen shrub, and probably that is in a great measure why it is so seldom seen in our greenhouses. With this digression I herewith append the names of a few of the more attractive varieties in bloom at the time of my visit, comprising such as Donckelaari, Countess of Orkney, Madame Pepin, Rubens, Léon Lequay, Count de Gomez, Augustine superba, Suzeriana, Princess of Prussia, Valteveredo, Comtesse Lavinia Maggi, Beali, De la Reine, Masteri, Mathotiana, and alba plena.—W. G.

— ATTRACTIVE APPLES.—Supplementary to the numerous and good list of Apples forwarded to "Planter" (p. 144), the following sorts may be well recommended to select from. *Culinary*: Bramley's Seedling, Loddington, Mère de Ménage, Potts' Seedling, Tyler's Kernel, a very fine Herefordshire Apple; Yorkshire Beauty, Alfriston, Bedfordshire Foundling, Red Costard, one of the oldest known; Flanders' Pippin, Frogmore Prolific, Gascoyne's Scarlet Seedling, very attractive; Maltster, Yorkshire Greening, Schoolmaster, Lewis's Incomparable, and Northern Greening or John Apple, an excellent bearer, long keeper, and first-class cooker. *Dessert*: Cox's Orange Pippin, Ribston Pippin, Court Pendu Plat, Duchess of Oldenburg, Red Astrachan, Golden Winter Pearmain, Golden Pippin, Wyken Pippin, Mannington's Pearmain, Old Nonpareil, Quarenden, Adams' Pearmain.

— In accordance with the courteous invitation of the Editor, I beg to supplement the list of valuable Apples given on page 144 of the *Journal of Horticulture*, with the following varieties, which I grow in my garden, and find highly ornamental as pyramid trees—viz., (1) Duchess of Oldenburg, or Russian Peach, (2) Beauty of Bath, (3) Lady Sudeley, (4) Gascoyne's Scarlet Seedling, or the Glory of England. All of these are very beautiful and highly productive. Beauty of Bath, though only of medium size, is an invaluable dessert Apple, and one of the earliest at present in cultivation, coming into flower before the Irish Peach, which usually sheds its blossoms in the beginning of May. I might also have included the Early Rivers Apple, raised by Mr. Rivers at Sawbridgeworth. It is a distinct advance, in many important respects, on Lord Suffield. It has been highly praised by Mr. Bunyard at Maidstone, a reliable authority on matters pertaining to fruit cultivation.—DAVID R. WILLIAMSON.

— A LUCKY FOREMAN AND GARDENER.—The late Mr. W. B. Miller of The Elms, Ramsgate, who was justly celebrated for his many splendid Zonal Pelargoniums and which have been distributed for a great number of years past by Mr. H. Cannell, left in his will the sum of £20 to Mr. A. Mayes, Messrs. Cannell's Geranium grower and foreman, also a like amount to Mr. Blackett, who was for a considerable time gardener to Mr. Miller.

— WOOLTON GARDENERS' MUTUAL IMPROVEMENT SOCIETY.—The usual fortnightly meeting was held on Thursday, February 20th, in the Mechanics' Institute. Mr. W. Tunnington, The Gardens, Calderstone, Aigburth, read an instructive paper on the "Cultivation of Asparagus," clearly showing that, notwithstanding the unfavourable nature of the soil, if its culture be taken up on the lines laid down in his paper that everyone may grow excellent Asparagus in the neighbourhood of Liverpool. The usual votes of thanks followed.—R. P. R.

— DEVON AND EXETER GARDENERS' MUTUAL IMPROVEMENT ASSOCIATION.—At the meeting of this Society to be held on Wednesday, March the 4th, the subject for discussion will be "The Gardeners' Royal Benevolent Institution." Mr. H. J. Veitch, Chelsea, Hon. Treasurer; Mr. G. J. Ingram, Secretary to the Institution; and Mr. J. H. Vallance, Hon. Secretary and Treasurer to the Bristol and Bath Auxiliary of the Institution, will address the meeting. Schedules of the Hyacinth and Spring Flower show, to be held on March 18th, may be had from the Hon. Secretary, Mr. Andrew Hope, 54, High Street, Exeter, as may also any other particulars that are needed.

— PRESENTATION TO MR. J. AUSTEN.—On Saturday evening last a handsome presentation was made to Mr. John Austen, late head gardener at Witley Court, who has recently retired from that position to become the landlord of the Hundred House Hotel. The presentation consisted of a service of plate, and included a tea and coffee service, Queen Anne pattern, a fluted punchbowl, together with a dozen handsome candlesticks, in three different patterns. Each article was engraved with the monogram, "J. A.," and the punchbowl and the tea and coffee pots also bore the following inscription:—"Presented to Mr. John Austen by a few friends and well-wishers on his leaving Witley Court Gardens, Christmas, 1895." Accompanying the gift was an address, suitably framed, which had been tastefully executed by Mr. C. H. Bartlett, and which bore the names of forty-two subscribers, of whom the following were present:—The Hon. R. Henley Eden, Messrs. E. S. Greensill, B. Stanier, R. Proudman, J. Hoddinott, J. Seale, T. Hogg, C. H. Bartlett, A. Holliday, W. Cooke, M. Sullivan, P. Sherston, J. Cotton, A. W. Goodwin, J. Milton, R. Edwards, C. Willis, and T. Freeman. The Hon. Mr. Eden, in a few kind words, said it gave him great pleasure on behalf of the subscribers to present Mr. Austen with the accompanying service of plate, together with the illuminated address, which he then read as follows:—"We, the undersigned, feel that we cannot allow your connection with Witley Court to cease without taking the opportunity to express our good will towards you, and our earnest wish that you may have a happy and successful career in the new undertaking upon which you are about to enter. It is with extreme pleasure that we ask your acceptance of the accompanying service of plate, as a slight token of the deep feeling of respect we entertain for you, and while we assure you it is a great satisfaction to us to know that we shall still have you as a neighbour, we trust that the friendly relations that have so long subsisted between us may be cordially maintained for many years to come." Mr. Eden added that he was sure the good feeling which had prompted the gift from so many subscribers would please Mr. Austen even more than the gift itself, and all present joined in the hope that Mr. Austen would soon recover from the illness which had so unfortunately attacked him at the commencement of his new undertaking, and that he would, with renewed health, prosper at the Hundred House for many years to come. Mr. Austen, who is still in a weakly state, and who was nearly overcome with emotion, in a feeling reply expressed the great pleasure he felt at the honour which had been done him. It was a most magnificent present, and he should value it very highly, not so much for its intrinsic worth as for the kindly feeling which it manifested. He heartily thanked all who had subscribed to present him with such a splendid token of their good will, and he hoped that the friendly relations so kindly spoken of in the address would not only be maintained, but if possible be developed and strengthened as time went on. It should be mentioned that the above presentation was intended to have been made at Christmas but unfortunately was unavoidably delayed. A few weeks ago a handsome marble timepiece was presented to Mr. Austen by the gardeners and other employes who had been engaged under him at Witley Court.

— YEOVIL CHRYSANTHEMUM, FRUIT, AND FLOWER SHOW will be held 11th November, 1896.

— THE KEW HERBARIUM.—The Herbarium of the Royal Gardens, Kew, has been greatly enriched by recent presentations. Specimens of new genera and species have been presented by Sir Ferdinand von Mueller, a collection of 200 species by Dr. Havilland, a collection of dried plants by Mr. Elliott (an officer of the Indian Forestry Department), about 170 species of Californian plants, chiefly new species, by Mr. B. Davey of Berkeley University; and a magnificent gift of nearly 1500 species of Central American plants by Mr. J. Donnell Smith.

— AN AMERICAN HERBARIUM.—The herbarium of the late John H. Redfield of Philadelphia, which is extremely rich in Ferns from all parts of the world, and in North American plants generally, containing all the sets made during the last fifty years in the western and south-western parts of the country, is to be sold by the Philadelphia Academy of Sciences, to which it was bequeathed under Mr. Redfield's will. The money derived from its sale, as well as that lately obtained from the sale of his botanical library, will form the nucleus of a Redfield fund of 20,000 dols. his friends hope to raise for the benefit of the Botanical Department of the Academy, which Mr. Redfield served faithfully for many years as curator.

— WATERFORD HORTICULTURAL SOCIETY.—On the 19th inst. the annual meeting of this Society was held in the Town Hall, and a good number of members was present. Mr. J. N. White, J.P., occupied the chair. The Committee's report for 1895 was a satisfactory one, and showed a fair increase of members. Two shows were held during the year, when the quality of the exhibits was generally high, though the amateurs' section of the summer show was not so well patronised as might have been expected. A small balance in hand remains from last year, and it was decided that in future the annual subscription of members should be 5s. The various other necessary matters incidental to such a meeting were got through expeditiously, and the meeting closed with a vote of thanks to the Hon. Secretaries, Messrs. W. Richardson and D. Cantwell, for their labours on behalf of the Society, and to the Chairman for presiding.

— INSECT PESTS.—On Monday evening Mr. J. Hiam, at the weekly meeting of the Amateur Gardeners' Society, gave an address on insect pests which trouble fruit growers, illuminated by the powerful microscope belonging to the Society, which was obtained some years ago by a grant from the Worcester County Council for technical instruction in horticulture, and which has proved of great value in many villages and towns in Worcester and Warwickshire. He said that to successfully deal with the various pests it was indispensable to know their life history, and exact time of hatching from the eggs. It was shown how absurd is the prevailing notion of "blights" coming in the "east winds" and "black clouds," and that the insect pests are already established in their respective positions, and generation succeeds generation before the "black clouds" may appear. The lecturer also explained how to get rid of these forerunners of mischief at the present time by application of suitable insecticides and other methods. He showed the pollen from Nut bushes and the beautiful Red Nut producing buds with the pollen in the act of fertilisation. It was explained and illustrated by specimens how certain bushes and plantations where he had been were destroyed by the Nut bud mites, or phytoptus, and on cutting an affected bud open scores, if not hundreds, of these little pests were seen to exist there in this single bud. The Black Currant mite is similar, and specimen buds were shown. On searching for specimens of red spider on Gooseberry buds, which had been on the bushes for about a fortnight, one could not be found on the sprays brought to the meeting, but in the search an important discovery was made, which Mr. Hiam said he had found what he had not seen previously—the Gooseberry aphid just emerging from the egg. This under the microscope proved of great interest as throwing light on the subject where the blight comes from later on when generation after generation had been produced until they swarmed and checked the growth of the shoots, and still later on spoiled the fruit by clinging to the stalks of the Gooseberries, sucking the descending sap, and casting off their excrement in the form of honeydew, which soon became a dark filthy matter, spoiling the fruit and foliage beneath the insects. The Plum aphid and the unhatched egg were next shown (very similar in appearance to the before mentioned), and it was stated that the young aphides or blight had been noticed on the trees for a fortnight past. Various other important pests and their eggs were shown, but the time being limited only a passing glance and reference could be made. It is hoped those will be dealt with more fully on a subsequent occasion.

— **EXTREME HEAT IN AUSTRALIA.**—Extreme heat is not an uncommon experience in Australia, but news comes by the last mail of the hottest day known in Sydney for twenty-five years. "A scorching westerly wind blew from early morning," runs the account, "and the atmosphere was like that of a furnace room. At noon at the Government Observatory the thermometer showed a temperature of 104° in the shade, the highest record since January, 1870, when it was 105°." Water famines have been the talk of the Colony. When the mail left water was 7d. a gallon in Coolgardie, the West Australian mining town. The last rain of any importance was in August, and the total fall of rain for 1895 was 15 inches, which is 10 inches less than the average fall for the past ten years.

— **THE HESSLE GARDENERS' MUTUAL IMPROVEMENT SOCIETY.**—At a meeting of the above Society, held February 18th, a paper was read by Mr. M. Murchison, gardener to F. B. Grotian, Esq., West Hill, on "Bulbs and Their Cultivation." The essayist first of all described what constitutes a bulb and all their different forms, ably entering into the cultivation, firstly, of hardy bulbs for flower garden and borders; secondly, of stove bulbs, special mention being made of *Eucharis* and *Pancratium*; lastly, of Dutch bulbs and *Freesias*. Mr. Murchison had taken up rather a large family, therefore those least in cultivation received only brief attention. The majority of those present ruled that *Lilium giganteum* was the queen of the Lily family.—F. L. T.

— **BARNSELY PAXTON SOCIETY.**—The eleventh annual dinner of the above Society was held on Thursday evening, the 20th inst., at the Queen's Hotel, Mr. John Henshall, Superintendent of the Lock Park, Barnsley, presiding. An excellent dinner was served, and after it about three hours were agreeably spent in toasts and the rendering of an excellent programme of music and singing. Mr. D. Chapman proposed the toast of the evening, "The Barnsley Paxton Society," which was responded to by Mr. Hoey, the Treasurer, who said that the Society was making steady progress. Last year they had elected sixteen new members, which now made their membership roll upwards of 100. Speaking as the Treasurer he was proud to state they had over £9 to the good, which was satisfactory, and as these societies did not require any very large balance in hand, they had determined to spend a fair proportion of that balance in augmenting the library. There was a large company present.

— **WAKEFIELD PAXTON SOCIETY.**—There was a very large gathering of the members at the meeting of this Society on the 15th inst. Mr. H. Chapman presided, and Mr. L. Twigge was Vice-Chairman. Mr. A. H. Pearson of Chilwell Nurseries, Nottingham, delivered a most instructive and interesting lecture on "The Cultivation of Small Fruits." In the course of his remarks the essayist dealt with the Strawberry, Gooseberry, Raspberry, and Currants. He regretted that these fruits were thought so little about, and their cultivation consequently somewhat neglected, because by proper and generous treatment such garden crops could not only be made very profitable, but the quality might be very materially improved. Several instances were given of enormous returns being made to growers who paid due attention to cultivation; even Gooseberries had realised £100 per acre. Practical hints were offered, in lucid language, on the best methods of treating each kind of small fruit above named, by which both amateur and professional gardeners might derive much benefit. A cordial vote of thanks was given to Mr. Pearson.

— **NATIVE GUANO.**—We have received the annual list of testimonials relative to this well-known gardeners' and farmers' manurial assistant. It has evidently been used with satisfactory results by hundreds of persons, as applied to practically all kinds of crops in many counties. We cite the case of Mr. A. J. Ward of the Richmond Allotments Association, because we happen to have seen and admired the remarkable productiveness of the plot referred to. Mr. Ward says, "The manure was used for general garden produce on an allotment mixed with soot and burnt wood ashes, and sown in drills and trenches, at the rate of about 1 cwt. on about 12 rods of ground. Results: I won the champion allotment prize, also the R.H.S. bronze medal as champion exhibitor at the allotment show, held July 13th last at Richmond, Surrey. I was first with Potatoes, Onions, herbs, and fruit; second with two dishes Potatoes, salads, Black Currants, and a collection of vegetables. I have found that some of the best produce has come from the plots where this manure has been used." The results were as creditable to this diligent worker as they must be satisfactory to the company which served him so well.

— **LENTEN ROSES.**—Of the various forms of *Helleborus colchicus* in bloom at Long Ditton, none seems to be more pleasing or useful than *H. c. punctatus*. This variety, whether out in the open ground or in pots in a frame, was blooming profusely and furnishing a wealth of flowers and leafage to cut from for vases. The flowers are large, of a reddish coppery hue, and speckled all over with a lighter tint. A few strong plants of these Hellebores put into large pots are very effective for greenhouse or conservatory decoration. They do not seem to be so widely grown as are forms of *Helleborus niger*, but they all equally merit culture. The roots seem to be less impatient of division than are those of the Christmas Rose, and soon develop into stout sturdy plants, carrying fine leafage and a profusion of flowers.

— **CHIONODOXAS.**—Though commonly known by the poetic appellation of Glory of the Snow, yet it is rare that we, here in Britain, can fully appreciate the significance of the term. In their native habitats it is easy to understand that these blue flowered hardy bulbs, like the Squills on their Siberian steppes, must on the melting of the winter snow present wonderful masses of blue inflorescence. Our stocks are too limited to enable us to realise at home what sort of almost magical effects are thus produced. Still we find planted out or in pots how beautiful they are. The pretty *C. Lucilæ* gives the deepest colour, and *gigantea*, a somewhat exaggerated name for so small a flower, gives the largest blooms. What with these *Chionodoxas* and *Scillas* we can have blue tints prominent in our gardens at this time of the year.—D.

— **THE EXTENSION OF THE VINE.**—In answer to "T. H., Bolton" (page 163) I may inform him that in my address to the Wakefield Paxton Society I did not mention the Harewood Vine, owing to my not knowing the extent of the Vine or the dimensions of the house it occupied, although I have long known of its existence. It may interest "T. H." to know that the members of the Bradford Paxton Society selected Harewood for their annual excursion last July. Unfortunately I was not able to accompany them that day. Mr. Wilkinson, our Secretary, gave a short account of their visit at the Society's meeting, and made particular mention of this Vine. I am pleased to inform "T. H." that under the care of Mr. Jeffreys, the present gardener, it was looking well, and carrying a good crop of fruit.—R. SCOTT.

— **ROYAL METEOROLOGICAL SOCIETY.**—The monthly meeting of this Society was held on Wednesday evening, the 19th instant, at the Institution of Civil Engineers, Westminster, Mr. Edward Mawley, F.R.H.S., President, in the chair. The Report on the Phenological Observations for 1895 was presented by Mr. Mawley, in which it was shown that, owing to the great frost at the beginning of the year, all the first spring flowers made their appearance very late; and it was not until the middle of June that plants began to come into blossom in advance of their usual time. During July the dates recorded were, as a rule, exceptionally early. The yield of all the farm crops except Potatoes was exceedingly poor. Pears and Plums yielded badly, but there was a splendid crop of Apples, and also of all the small fruits. As regards vegetation generally, seldom has a year ended under conditions as favourable for the one succeeding it. Mr. R. H. Scott, F.R.S., read a paper on the recent unusually high barometer readings in the British Isles, and Mr. R. Inwards, F.R.A.S., one on "Turner's Representations of Lightning."

— **BIRMINGHAM GARDENERS' MUTUAL IMPROVEMENT ASSOCIATION.**—At the fortnightly meeting, held on the 17th inst., Mr. W. B. Latham presiding, Mr. James Martin, of Messrs. Sutton & Sons, Reading, delivered a practical and interesting dissertation on the Cyclamen and Chinese Primula, illustrated by several cut blooms. After adverting to the history of the *Cyclamen persicum* and *Primula sinensis*, the lecturer dealt with their cultivation, and afforded considerable information not commonly known to the ordinary grower. A hearty vote of thanks was accorded to Mr. Martin for his interesting lecture, also to Messrs. Sutton & Sons for their kindness in permitting their representative to be present. On this occasion there was also a competition amongst the members for the pecuniary prizes offered by the Committee for flowering plants of Cyclamen and Primulas, and Mr. Martin adjudicating thereon gave his awards as follows:—Cyclamen, single plant—first prize, Mr. J. Musten; second, Mr. Phoenix. Primulas—first prize, Mr. J. E. Pears; second, Mr. Oliver Brasier; third, Mr. John Hughes. Mr. Charles Bick, gardener to Mr. Walter Chamberlain, Harborne Hall, Harborne, exhibited a truss of a very fine form of *Primula obconica*, the pips being quite circular, and was pronounced by Mr. Martin as the best form of the species he had ever seen. Mr. John Pope produced a fine umbel of *Imantophyllum Lindeni*.—W. G.



USEFUL GARDEN ROSES.

TEA-SCENTED AND THEIR HYBRIDS.

I BELIEVE all rosarians have a very warm corner in their hearts for this delightful section. No doubt we often wish they were less exacting in their requirements; but when we get them in perfection, the wondrous delicacy of their colouring and peculiar deliciousness of perfume seem to lead us to a higher level of beauty; indeed, I have known some enthusiastic lovers of Roses begin by showering their affections on the whole genus Rosaceæ, and by admiring none but Teas. Such have usually pronounced artistic tastes, and they tell us that the soft gradations of colour blendings, which Nature supplies in such infinite variety in Tea Roses, prove so fascinating to a trained eye that their whole interest must be centred in them, while they leave others to sing the praises of the Hybrid Perpetuals, which are distinctly noted for the brilliancy and more clearly defined variations of colour.

There is one point in connection with the culture of Teas of which I think sufficient advantage is not taken; it is this—they succeed admirably in many high and comparatively poor soils, in which the H.P.'s never seem quite at home. Of course, in soils of this nature they must be constantly and liberally fed; but this is a matter presenting little difficulty, certainly much less than that of bringing a stiff soil into the right mechanical condition, for Teas must have a well-drained soil, quite free from pastiness. Bushes in open quarters had rather a bad time during the two previous winters; but this year all has gone well so far. Let us hope that those fatal spring frosts will not visit us this year. I always think it is a pity to plant hardy Roses against walls in warm positions; such places should be reserved for these tender beauties.

I will now pen a few notes on vigorous growers suitable for planting against high walls or buildings. Belle Lyonnaise, with its deep canary-yellow flowers, is one of the best for the purpose; it is also fairly hardy, and it is seldom that the wood gets killed during our most severe winters, except a few old and almost worn-out branches. Sharp winters usually finish such. Climbing Devonensis I do not consider suitable for planting in the open air except in the South of England. The flowers are extremely beautiful, but to get it to flower abundantly it must be allowed to ramble at will; it then quickly covers a large amount of space. Should a very severe winter occur much of the wood is killed. Strong suckers are then sent up, and another season is spent in getting good flowering wood, and the chances are that by the time appearances lead us to look for flowers in abundance cruel frost again robs us of our reward. As a greenhouse Rose this variety is excellent.

Climbing Niphetos is good, but it ought to be planted against a south wall; climbing Perle des Jardins is really a grand acquisition. I have often heard it remarked that the flowers are as good as those of Maréchal Niel. It is a very free bloomer, and hardier than many kinds. Germaine Trochou produces flowers of a peculiar mixture of salmon and nankeen yellow; it is also very hardy, and in all respects a good garden Rose. Gloire de Dijon, of course, is too well known to need particularising; but there is one peculiarity about it which is not often noted in the Press—viz., in some soils and positions the flowers when fully expanded are beautifully suffused with rose. Madame Berard is such a good doer and produces flowers so handsome and peculiar in colour that I often wonder it is not more frequently met with. I see in some catalogues the colour is described as salmon-rose; with us it is invariably a near approach to apricot yellow suffused with rose.

Pink Rover I like immensely; the delicate shade of pink the flowers have is one that "takes." Though not a very strong grower it answers well for walls or fences of moderate height. Waltham Climber No. 1 supplies flowers of a distinct colour in this section of Roses. Reine Marie Henriette is a grand and attractive variety, and has been very appropriately named the red Gloire de Dijon. If given a sunny position, and little pruning, it flowers freely, and the foliage is retained throughout the winter.

Passing from this rampant grower I come to that large group which is composed of varieties adapted for bush culture and for planting against low walls, or in other warm positions. Adam, a very old and not common variety, is in every respect a garden Rose. It flowers consistently throughout the summer, is bluish rose in colour, and possesses a very sweet fragrance. Anna Ollivier is especially good in the bud, but unfortunately does not flower so freely as one would wish.

Catherine Mermet and its sports Bridesmaid and Waban all possess sterling merit, and give flowers of great size and substance in pleasing shades of pink and rose; they are, moreover, very free flowerers. The white sport, The Bride, should be in every collection. Comtesse Riza du Parc and Ernest Metz supply flowers of attractive salmon rose and crimson rose tints; they have long been special favourites with me.

Plants growing on a low south wall each year give us many very fine flowers. Corinna, one of Messrs. W. Paul & Son's best new Teas, I have not yet tried, but hope to do so this season. The flowers I saw of it last year were wonderfully attractive as well as distinct. Goubault, with its bright rose flowers, is very sweet; perhaps a little too flimsy in the petal and somewhat tender.

Grace Darling and Madame Lambard are a pair to grow in quantity, both are very hardy, flower constantly, and are especially attractive; the former produces flowers of varying shades of colour, from buff to bright rose; indeed, I think it may appropriately be termed a Rose of surprises. Were I asked to name a Tea ahead of all others in point of floriferousness I should unhesitatingly say Homer. It is one of the earliest to begin flowering and the latest to finish. We have a large tree on a south wall, and to-day (February 12th) I found upon it two buds large enough to cut, the attractive rosy white colour being as good as in the summer time. It does well as a bush, but its right place is against a wall. Hon. Edith Gifford, what a charming flower this is in the bud! certainly one of the best among flesh coloured varieties, and a prolific one, too. Isabella Sprunt flowers as abundantly as any yellow Rose I know. Lady Mary Fitzwilliam is often regarded as a poor doer. It is not so with us, a plant growing against a low south wall annually gives some of the largest blooms of a delicate flesh colour that we have.

Ma Capucine is a very bushy grower, exceedingly attractive in the bud, in colour being copper. Unfortunately, however, the flowers have but little scent. Madame Hoste and Perle des Jardins are two bright yellows of sterling merit. The former is quite an ideal Rose in shape, and in every other respect good; the latter with us usually produces flowers of a fine canary yellow, except during the prevalence of very hot weather, they are then often much paler in colour.

Madame de Watteville has always been considered very tender. I do not find it to be more so than the majority of Teas; it is in every respect a delightful variety, worthy of the attention of all. Marie Van Houtte and Niphetos are so widely popular that I need not dilate on their charms. Princess of Wales does not seem to be much grown; why I know not, for it is certainly a desirable variety, growing very dwarf, and producing in abundance flowers having the outer petals rosy yellow, centre golden yellow. Safrano, an old favourite, is perhaps as widely known as any Rose, and is justly esteemed for its beauty in the bud. Safrano à Fleurs Rouges in growth and habit resembles the foregoing, and the rosy red colour of its flowers makes it particularly pleasing. Souvenir d'un Ami is another old favourite which still ranks among the very best, and I think will ever do so; the pleasing admixture of salmon and rose in the flowers gives a shade of colour much sought after at the present time. The shoots of this variety should be well thinned so as to get them strong, very fine flowers are then the result.

Viscountess Folkestone is one of the very best among the hybrids, as it grows strongly and produces large and highly attractive salmon pink blossoms. This for the present will complete my list of varieties about which I have jotted down a few notes. I am fully aware that I have passed over many of sterling merit, but I have steadfastly adhered to the principle of particularising only those I know to be thoroughly good.

Roses are now so numerous and withal are so enthusiastically cultivated by all sections of the community, that I should not be surprised to see their influence recognised by some of England's greatest statesmen, for what more quickly breaks down the barrier between high and low than a mutual interest in a simple flower? If all the good deeds done in this world could be traced to their true source many of them I know would be found to have sprung from the softening influence of a tender flower. Thus in their silent way they help to shape the destinies of nations, and though the Rose was once the emblem of a divided England, to-day it is its symbol of unity.—H. D.

LILIUMS AND RHODODENDRONS.

MR. McCULLOCH sends us a photograph of a bed of *Lilium auratum*, *platyphyllum*, and *rubra vittatum*, taken in the gardens at Newstead Abbey, Notts. The bulbs were planted in February, 1894, in a bed that had been well prepared for choice Rhododendrons, and flowered the following October. After flowering they were heavily mulched with short well-decayed manure, and last spring they started very strongly. At the time the photograph was taken the plants were 7 feet high, with thirty fine blooms on a stem. They seemed to be quite at home amongst the Rhododendrons, and were the admiration of everyone who saw them when in full beauty.

The late Mr. Jas. Macintosh used to grow large numbers of Liliams in association with Rhododendrons in his garden at Weybridge with excellent results—in fact, the manner in which both grew and flowered was wonderful and extremely beautiful. As the present is a suitable season for making up such a combination, which is one that is worthy of far more extended application than is at present accorded to it, we reproduce Mr. McCulloch's photo, as showing what may be done in this direction by good cultivation.

GROWING ALLAMANDAS.

No other inhabitant of our plant houses furnishes us with such a grand display of bright yellow flowers as this family of Apocynaceous plants. They are all evergreen climbers, and all produce yellow flowers except *A. violacea*, which alone should secure them a place in every collection of stove plants. When once well established they will live for a great number of years, and continue to give a gorgeous display of their freely produced blossoms for at least six or seven months of the year, from early summer until far into the winter months. This is a great boon to those who have to supply a large number of cut flowers, as the blooms can be used in many different ways for room or dinner-table decoration.

The Allamanda is a most valuable plant for exhibition purposes. Few plants are more easily trained into perfect specimens, and no other species furnishes the exhibitor with such a mass of yellow flowers, which, when seen resting on the glossy green foliage, have a most imposing appearance. Although plants trained in this

returning them to the propagating frame. Do not plunge them as before, but stand them on the plunging material. In a few days they will have taken well hold of their fresh compost, and can gradually be inured to the general temperature of the house. As soon as the roots have filled the pots the plants should be placed in 6-inch pots, and at this and all future pottings peat must be wholly dispensed with; a compost I have found to answer well being three parts good loam to one of cow manure, with a liberal addition of charcoal.

Being water-loving plants when growing freely, a thoroughly good and lasting drainage must at all times be given them. At this period of their growth it must be determined what position and shape they are finally to take; if for training on the roof as before described they will at present need no stopping, but grown on with single stem until they reach the desired height where to be trained horizontally under the roof, when their points may be pinched out. As soon as they have started into fresh growth after being stopped, they should be planted in their permanent quarters, making a good drainage, and employing as a compost three



FIG. 27.—LILIUMS AND RHODODENDRONS.

manner lose much of their natural beauty, yet it must be admitted that, like many others of our handsome flowering stove plants, such as the *Dipladenia*, *Bougainvillea*, *Clerodendron Balfourianum*, and *Stephanotis*, they would never reach the exhibition tent in the perfect condition we so often see them during the summer and autumn months.

To see the Allamanda in its most natural manner of growth it should be permanently planted out where the temperature is never allowed to fall below 55°, and trained on wires placed horizontally along the roof of the house at a distance of 9 inches or a foot from the glass. When well established and covering a good space of the structure, the shoots being well regulated to show off the blooms to the best advantage, it is a sight not easily forgotten by all lovers of flowers.

Allamandas can be easily propagated by cuttings, which will root freely at almost any season of the year, either in a propagating frame or under a bell-glass where a bottom heat of 70° to 80° can be obtained. The early spring, as soon as the shoots are from 2 to 3 inches in length and can be taken off with a heel, is the best time to accomplish this work. Insert them singly in thumb pots, in a compost of peat and sand, pressed firmly, well watered, and plunged in the propagating frame, shading from bright sunshine being necessary. In about a month they will have filled their small pots with roots, and should be transferred into 3-inch pots, adding to the peat and sand one part good fibrous loam again

parts good fibrous loam to one of cow manure. Do not give them too much soil at first, but occasional top-dressings as often as the roots come to the surface will be found more beneficial to them, as the whole mass given at one time would get into a sour unhealthy state ere the young roots had fully taken possession of it.

On the other hand, should the young plants be required for trained specimens, they will need stopping twice or three times the first season to insure a thorough foundation to work on. At each potting process the soil must be thoroughly and firmly worked between the ball and the sides of the pot, using the same compost as before described, with the addition of a little charcoal. By the end of the season they should have filled pots 10 inches in diameter, with good active healthy roots, which will be found large enough to winter them in, as they will make but little progress from October until the end of January, during which time but little water should be given—just sufficient to keep their wood plump and to keep some of their foliage in a healthy state.

By the end of January each of the growths should be lightly pruned to encourage fresh breaks from the best ripened wood. As soon as they are well started into growth, the breaks being about an inch in length, place the plants in their flowering pots about 16 inches in diameter, which will be ample for the development of a good-sized specimen. As soon as potted the trellis or training sticks should be added, that of a balloon shape being

preferable, the growths being carefully tied on. No farther training will be necessary while making their growth, allowing them plenty of light and space to encourage strong, sturdy, and well-ripened shoots. As soon as they commence to show flowers their training must be taken in hand, which should be done very carefully and periodically, being so arranged, that when the flowers are fully expanded they will show to the best advantage in the position allotted to them.

Old plants will not require larger shifts every year, but after being well cut back to about three eyes of the old wood and started into fresh growth in the spring, they can be taken from their pots, and some of the old ball reduced with a pointed stick. Their drainage must be newly arranged, returning them to the same sized pot as before. When well into active growth they will require some stimulant, either in the shape of liquid manure or top dressings with chemical manure.

Allamandas require but little shading, only just sufficient to keep their foliage from scorching during July and the beginning of August. Another great point in their successful cultivation is cleanliness, which in fact applies to all plant life, and unless carried out thoroughly and effectually it is impossible to procure them in good condition at any period. Allamandas are not so subject to insect pests as are many of our stove plants, being most liable to the attacks of thrips and red spider, both of which can be kept in check should they appear, the former by fumigation with tobacco paper, the latter by the liberal use of the syringe. Should scale or mealy bug gain a footing, the bug can be washed off with soft water and petroleum, using a wineglassful of the latter to four gallons of water, thoroughly mixing it before applying it to the plants. Scale should be picked off by hand. The cultivator must always keep a sharp look-out for all such pests when attending to the daily wants of these plants, and should any be perceived their destruction should at once be attended to.

There are several well-known Allamandas, and most of them are worthy of cultivation, the best, in my opinion, for the purposes above described, being *A. Hendersoni*, *A. Cheloni*, *A. nobilis*, and *A. grandiflora*.—F. J.

ORNAMENTAL HEDGES.

IN some old gardens—those delightful old-fashioned gardens—evergreen hedges are a pleasing feature, serving as a break to the somewhat monotonous aspect the walled-in garden is apt to wear during the winter. Not only for appearance sake is the subject worthy of consideration, for their utility in lessening the force of chilling winds is apparent when the extent of the garden is measured by acres. As a screen, also, to the frame ground or other indispensable though maybe unpicturesque adjunct to a garden we may, by this means, form sunny nooks, which for three parts of the year are havens of shelter as well as a place for performing unobtrusively the rougher work connected with the potting shed or houses. In this case our hedge will under most circumstances take the formation of three sides of square.

The one plant which is pre-eminently adapted for the purpose is the English Yew. Its amenity to being kept within desired bounds when having attained them makes it, I think, unrivalled for the purpose, for the annual close-shearing appears to be neither inimical to health nor prejudicial to its notorious longevity. Hence, for permanency, and by its adaptability to the varied conditions of our soil and climate, it will rarely, if ever, disappoint those who want this work to be as enduring as a well-built wall. Its comparatively sombre hue with, perhaps, its formality detract in some eyes from the sterling qualities enumerated. The employment of the golden form, *T. aurea*, for this purpose would remove one objection if expense and the sentiment of restricting the natural growth of so beautiful a shrub could be overcome. As this and other varieties are readily grafted, some thought may be given to this in future planting.

In keeping a Yew hedge, when the desired height and width have been accomplished, few who have used the clipping machine, made on the principle of the horse clipper, will again resort to the old-fashioned shears. If there is one thing to which this machine is *par excellence* adapted that is a Yew hedge, and for neat and expeditious work it is, in this case, unsurpassed.

For appearance sake, and as presenting less formality of outline, a flat top is generally preferred; but with an old hedge, dense and broad, heavy falls of snow are apt to cause some trouble by a spreading or bulging of the top. This is in a great measure overcome if a span-roofed or smartly rounded top is adopted. One other consideration of the Yew as a hedge which must not be overlooked is the vigorous root action which may, according to position, require some occasional curtailment; otherwise plantings in the immediate vicinity may be considerably impoverished.

Periodic opening of a trench on each side, some 3 or 4 feet from the stems, will keep this evil in abeyance, and without being inimical to the health of the hedge will as well check any disposition to grossness.

Cupressus Lawsoniana is not so frequently used as an ornamental hedge plant as its merits deserve. Most who have seen it thus grown will, probably, accord to it the premier position for elegance of outline and cheerful tone of colour, provided that its character is not sacrificed to clipping. Unless the locality is specially favoured by a well drained, porous soil, this Cypress appears to enjoy being lifted a little above the level of its surroundings; therefore, in planting under these conditions it is advisable to throw up a low bank as a basis for planting, and any contributions of old potting soil or decayed manure will be of distinct advantage. Much of the beauty of a hedge of this description will be lost if confined to less than 6 feet in height; and it may well be allowed to grow several feet higher if the position admit of it. But little attention is necessary in keeping. A biennial trimming with the pruning knife, with the use of the lopping shears to take out the strongest leaders, being sufficient corrective.

If large plants of the *Cupressus* are chosen for planting, a stake placed diagonally on the sheltered side and secured by a band of rope half way up the stem, will insure their stability until established. Should the locality be one in which high winds prevail light poles forming a continuous rail through the whole length of the hedge, each plant being secured to it, will form a bond of strength individually and collectively. From a similar hedge I have, during the festive season, cut quantities of feathery sprays as a help to decorative work; whereas any similar contributions from specimens is out of the question. The beauty of this hedge reaches its climax in early spring when crimson-tipped with the male inflorescence.

Next amongst the evergreens, and perhaps most generally used, is the common Laurel, and if permanency is to be considered, in my experience the least satisfactory. I have had to deal with examples planted *en bloc* each side of a garden entrance, and also in the hedge-form acting as a screen to the potting shed and similar offices. In the endeavour to keep them presentable after attaining a certain age it has been a matter of unqualified regret that such was ever used for the purpose. No sooner will the Laurel have accomplished the desired object than it begins to die away, leaving unsightly gaps from the base upwards. Possibly under some conditions it may behave better, but I should be loth to adopt it for this purpose and initiate future troubles for others.

Near the sea *Escallonia macrantha* makes a charming hedge, but from its more prostrate habit is disposed to form breadth more than height. Obviously the tying-in of straggling shoots, with a little balancing from the pruning knife, is all the correction one can or would care to give this beautiful shrub. *Osmanthus ilicifolius* is suitable for the purpose, and is a good substitute for the Holly in positions where the latter would be too bold to introduce. *Desfontainea spinosa* is, I fear, only to be mentioned by name, so few are the places where this charming shrub is likely to succeed, but where *Griselinia littoralis* is found to thrive its unique colouring and pleasing habit should be sufficient reason for its inclusion amongst high-class shrubs, suggesting their fitness to the purpose. On a free shallow soil superimposed upon the granite, and within the influence of the sea, it is of vigorous growth. Under these conditions I have noticed it pass unscathed through abnormal severity, when the common and Colchic Laurels have been reduced to an eyesore.

For boldness of effect and general good qualities the Holly takes a high place, for a thriving Holly hedge is a pleasing object at all seasons if sufficient room obtains for its development. Necessarily that will not, as a rule, be in the garden. This must also be regarded for its utility as a fence. The grand old Holly hedge at Keele Hall in Staffordshire is a notable example of its kind. I can only imagine what a hedge of the Golden Queen variety would be in effect (there are, I believe, such examples existing), but among the many and hardier fine forms there are doubtless several which commend themselves to the purpose, and would yield more refinement than the commoner varieties.

Amongst deciduous plants used, or suitable for use, as hedges there is a wider scope for selection, but as their ornamental character is practically limited to the season in which their want is least felt, but one or two examples need be included here. Seedling Oaks readily adapt themselves to the trimming and training necessary to constitute a perfect dwarf hedge, and can be kept in good form for an almost indefinite time. An illustration of this is afforded in the bolder portion of the Italian gardens at Trentham, designed by Sir Charles Barry. These dwarf Oak hedges are a pleasing and uncommon feature in this style of gardening.

Beech hedges some 10 to 12 feet high, and not more than

18 inches or 2 feet wide, were a prominent feature in one place where my earlier days were spent. Trim and stately were these Beech hedges, and of marvellous beauty in their spring dress; but it was rather for their utility as shelter they were there regarded. In the summer they were almost impenetrable walls, and retaining the dead foliage until the severity of winter was past, protection was afforded nearly all the year round. Probably a Beech hedge is not surpassed in its storm-resisting qualities; as the horizontal branches interlace, only those which extend on either face come under the shears. Another advantage is that it will bear being so closely clipped as to take up but little more lateral room than an ordinary wall. In planting these or other things double the number of plants ultimately required may be set in the line, and before crowding takes place alternate plants may be lifted for disposition as circumstances direct. At this stage a little manure thrown into the vacant spots will materially benefit the permanent subjects and attract the roots from spreading at right angles.

Hedges which are planted as fences pure and simple need not be included here, although some little ornamentation in the way of standard Scarlet Thorns would relieve the monotony not seldom apparent. The season now with us is obviously one for the consideration of evergreen planting rather than for deciduous things, but in all cases the subject is worthy of a little forethought when the work is to be of a permanent character.—INVICTA.



MR. MOLYNEUX'S CHRYSANTHEMUM CENSUS.

OWING to the pressure on our space the notes for incurred varieties in the analysis has been held over until our next issue.

WHILST everyone must heartily join in thanking Mr. Molyneux for the admirable service which he has rendered to Chrysanthemum growers, it is difficult to avoid comment on some of the results. Thus we see that grand white novelty, Madame Carnot, practically at the top of the two larger lists and in first-class company, yet when the votes in the twelve best new varieties are taken it is found that with fifty-four given for the top one, Madame Carnot drops down to twenty-one. That seems inexplicable. One is therefore tempted to ask whether all who have responded to this census requirement have grown the varieties named, or whether they have only seen them at shows, or taken their selections from catalogues. Take the beautiful Mons. Chenon de Léche, for instance, how many or really how few have yet grown it? Of course, if it were stated in sending out the invitations to take part in the census that, so far as new varieties were concerned, it was not essential that these should have been grown by contributors, then my objection is out of court. Still how in this selection Madame Carnot gets only twenty-one votes, while Edith Taber gets fifty-four, and in the fifty list Madame Carnot gets 105, and Edith Taber only nineteen, and in the twenty-four Japs Madame gets 101 and Edith only fourteen, passes my comprehension. Does not such voting tend very much to nullify the usefulness of the census? I should like to say that amongst novelties in Japs quite up to first-class form I saw in the autumn in various directions, were La Moucherette, Deuil de Jules Ferry, fine colour; Mons. Panckoucke, W. Slogrove, Mons. G. Biron, and the pretty Good Gracious.—D.

THE FRENCH NATIONAL CHRYSANTHEMUM SOCIETY.

WE may now fairly assume from the reports to hand that the efforts of the French Chrysanthemum growers to promote a National Chrysanthemum Society have been successful. At a general meeting held on the 13th ult. the rules were passed, and in a great measure they seem to be similar, so far as practicable, to those of the English Society. The proper title of the Society is "Société Nationale des Chrysanthémistes Français," but membership is not restricted to persons of that nationality, for we find several well-known English lovers of the popular flower enrolled on the list of members; such, for instance, as Messrs. Cannell and Sons, Messrs. John Laing & Sons, Mr. C. E. Shea, Mr. Briscoe Ironside, Mr. H. J. Jones, and Mr. Harman Payne. Although only started so recently, the Secretary informs me that there are already 150 members, which shows pretty plainly that the need for some such organisation was an undoubted fact, and not a matter of speculation. Another Society, founded on almost identical lines, has been started at Lille, and a Committee of Chrysanthemum growers has also been organised at Paris under the aegis of the National Horticultural Society. These, however, are merely local expressions of a long-felt want, and will probably do more good than harm to the original "National" Society, which has its headquarters at Lyons.

The constitution of the French N.C.S. is partly on the English and partly on the American systems. Owing to want of funds the French Society does not propose to hold shows on its own account, but to encourage other horticultural societies in various parts of the country

to do so by making grants of money and medals, and also to hold conferences on the occasion of such shows. The French Society intends to foster the formation of local committees on the American principle. It has just now under consideration the question of a Floral Committee, whose members will meet at Lyons for the purpose of making awards on new varieties, and the regulations proposed are almost identical with those of the N.C.S. here in London. These, however, have yet to be settled. An official catalogue of varieties and an annual report and financial statement are to be published, and a scheme for affiliation of local societies is also provided for.

It is interesting to be able to record that the French N.C.S. has also in the plan of operations determined upon the formation of a library of Chrysanthemum books, trade catalogues, and other literature. It is also to be hoped that consideration will be given to the question of the registration of new seedlings. Many of the raisers live so far apart, and have hitherto known so little of what one another has been doing, that the duplication of names has occurred to a very large extent, and some system of registration, as adopted by the American N.C.S., would do much to prevent this in future.

The annual subscription of 5 francs (4s.) is a very modest one, and the best guarantee of success can only be found in a very extensive roll of membership. This, however, at the present rate of growth seems likely to be accomplished in the near future. If the three National Chrysanthemum Societies of England, America, and France can only find a means of working in common accord, growers and raisers in all parts of the world will rally round them, and find an enormous benefit from their existence. Much misunderstanding, confusion, and perhaps recrimination may thus be avoided in future.—P.

THE N.C.S. JUBILEE SCHEDULE.

THE officers of the N.C.S. deserve praise for the prompt manner in which they acquaint the public as to the constitution of the leading classes of the jubilee exhibition to be held during the current year, as when the issue of prize schedules is delayed until April ordinary exhibitors are seriously handicapped.

A few comments on the principal classes in the preliminary schedule just issued may not be inopportune. The class for a group of Chrysanthemums in pots mingled with foliage plants is this year to be staged in circular form. It is questionable if a good effect can be secured in such an arrangement, either with Chrysanthemums or any other plants, and it will be interesting to see the results. The introduction of circular groups may be with a view to economise space in the Royal Aquarium. I note, however, with far greater concern a special clause in this class which runs thus, "The foliage plants need not necessarily be grown by the exhibitor." I venture to say such a class is unique in the exhibition, but it is an obvious insertion to meet the requirements of a limited few. The groups of Chrysanthemums and foliage plants at the Aquarium show in November last fully demonstrated the part that foliage plants play in groups of this kind.

Take the case of a gardener with limited means at command, who is a good cultivator of Chrysanthemums and plants generally, but has not the space of an unlimited choice of foliage plants to assist his well grown Chrysanthemums; such an exhibitor cannot, owing to his limited means, search London and the provinces to obtain the best of Crotons and Palms. Compare this would-be competitor with a leading Chrysanthemum specialist, to whom the winning of such a prize may, and probably does, mean untold gain to him in his business as a vendor of choice Chrysanthemums. He may not own a single Croton or Palm, but he can under the conditions of this class buy or hire the best foliage plants possible. Surely these two men do not start on an equal base. In competition the base should, so far as possible, be equal, if not complaints from exhibitors will always be heard.

The prizes, except in two classes, are handsome throughout, and cannot fail to attract exhibitors. When we consider that only two competitors entered for thirty-six incurred blooms at the last November show, what reason is there to expect more for sixty? The class for a collection of old varieties may create some interest in the mind of a limited few, but actual results will be small I suspect. It is questionable if the exhibits will merit the awards. The class devoted to market growers should produce some instructive exhibits, and is one well conceived. The class provided for foreign members will be the means of instituting a comparison between foreign and English grown blooms, and as such should prove interesting. Mr. H. J. Jones deserves praise for the handsome prizes offered by himself for twenty-four Japanese blooms, and which will no doubt produce some of the best specimens in existence. Taken in its entirety the jubilee exhibition of the N.C.S. bids fair to outclass anything of the kind hitherto attempted in England or elsewhere.—FAIRPLAY.

NATIONAL CHRYSANTHEMUM SOCIETY.—ANNUAL MEETING.

THE annual general meeting of this Society was held at Anderton's Hotel, Fleet Street, on Monday evening last. There were seventy-five members present, and Mr. R. Ballantine was elected to take the chair. After the minutes of the last annual meeting had been read and duly signed, the Chairman called on Mr. R. Dean, the Honorary Secretary, to read the report of the Committee and balance-sheet, which is herewith appended.

REPORT OF THE COMMITTEE, 1895.

ON no previous occasion have your Committee made their annual report with greater satisfaction than at the close of the present financial

year. An almost unprecedented growth of membership during the past twelve months, and the holding of four exhibitions of the highest merit, have crowned the labours of your Executive, and they bear striking testimony to the world-wide popularity of the Chrysanthemum, and the close hold the Society has upon the devotees of the "Golden Flower." During the year ending December 31st thirteen Fellows and 149 ordinary members have been elected, and ten societies admitted to affiliation. The number of members retiring at the close of the year is smaller than usual.

In reference to the exhibitions, your Committee greatly desire to see a larger representation of the early flowering varieties at the September show, as many new forms have been added to the section during the past few years. As in 1894, the October exhibition was of a very high order of merit, the ground floor of the Aquarium being full of attractive features. The November Fête was on a very large scale, the ground floor and two spacious galleries scarcely sufficing to accommodate the numerous exhibits; the weather being happily most favourable, your Committee were gratified to notice a larger number of societies than usual contending for the challenge trophy. The late exhibition in December brought a charming display, and the high quality seen in the exhibits called forth universal praise. Both the October and the December shows are undoubtedly growing in extent, quality, and attractiveness.

Your Committee have amended their regulation as to the size of boards for Japanese blooms, and for the future in all classes in which this type is shown, the boards must be of the sizes set forth in the special regulations for exhibitors.

The Floral Committee held ten meetings during the past year, and they were the means of bringing together an enormous number of novelties, the Committee being frequently set a very onerous task in

having to inspect so many claimants to favour. Though great care is exercised in making awards to novelties, the general high excellence of the numerous introductions necessitates the granting of a considerable number of certificates of merit. The Floral Committee have had under consideration their rules of procedure, and have amended them in several important particulars; one of these requiring that for the future three blooms of a variety must be shown to obtain a certificate of merit, though commendations will be awarded to two blooms only, provided the variety possess sufficient merit.

In the present year the Society attains to the fiftieth year of its existence, having been originally known as the "Stoke Newington Chrysanthemum Society;" and since 1846 it has experienced an active and unbroken career, and at all times been a powerful influence in promoting a world-wide culture and exhibition of the Chrysanthemum. Your Committee have therefore made arrangements to celebrate the Jubilee of the Society in a fitting manner in November next; the carrying out of the same being entrusted to a Special Jubilee Sub-Committee. The Catalogue Revision Committee are already at work compiling a Jubilee Edition to date, for which it is confidently expected there will be a large demand.

The Jubilee Fund is yet considerably short of the sum required to enable the celebration as originally proposed to be carried out, and the Committee make an earnest appeal to members to assist in making the Jubilee Festival a complete success.

The esteemed President, Sir E. Saunders, is most heartily thanked for his continued interest in the work of the Society, and the Committee gratefully acknowledge his gift of a valuable clock as a special prize at the November exhibition. They also thank the members and friends of the Society who generously gave special prizes at the November exhibition, all of which are greatly appreciated.

FINANCIAL STATEMENT, 1895.

Dr.	RECEIPTS.	£	s.	d.	£	s.	d.
Balance in hand ...	...	...	...	...	29	10	2
Members' Annual Subscriptions—							
576 at 5s.	...	144	0	0			
9 at 10s.	...	4	10	0			
24 at 10s. 6d.	...	12	12	0			
74 at 21s.	...	77	14	0			
1 at 30s.	...	1	10	0			
6 at 42s.	...	12	12	0			
1 at 63s.	...	3	3	0			
					256	1	0
Foreign Members' Subscriptions	...	...	...	...	4	19	3
Donations and Special Prizes	...	...	...	...	28	11	6
Royal Aquarium Company—							
October Show	£75 0 0						
November Show	175 0 0						
December Show	50 0 0						
		300	0	0			
Less Tickets	...	17	10	0			
					282	10	0
Bill Posting, as per contra	...	...	...	...	10	14	0
Affiliated Societies—							
Fees	...	62	9	6			
Medals and Certificates	...	104	14	6			
					167	4	0
Entrance Fees and Rent of Space	...	...	...	...	57	11	0
Catalogues and Postages	...	...	...	...	5	8	6
Sale of Tickets	...	...	...	...	22	14	0
Advertisements in Schedule	...	...	...	...	32	18	6
Jubilee Fund	...	...	...	...	21	7	6
					£919	9	5

Amount standing to credit of Reserve Fund, £45 11s. 8d.

Mr. Dean, in a few supplementary remarks, complimented the Society on its extremely satisfactory condition, as the figures proved that financially it was now better off than ever it had been before. Considering that they had been put to extra expense in the shape of a supplementary catalogue, presentation to Mr. R. Ballantine, together with £10 given towards the Dahlia and Gladioli section at the early show, and the increase of £25 for clerical assistance, the balance of £65 7s. 8d. against that of £29 10s. 2d. of last year was highly satisfactory. Passing on to the reserve fund, Mr. Dean remarked that there was a deficit on the Year Book, and regretted that it had not been purchased to the extent they had anticipated; but as money had been saved in other ways the reserve fund practically remained intact. The following is the cash statement of this fund:—

RESERVE FUND.—RECEIPTS.

	£	s.	d.
Transfer from general account	55	2	0
Sale of Year Book	17	7	10
Advertisements	34	16	0
	£107	5	10

	EXPENDITURE.	£	s.	d.	Cr.	£	s.	d.
Prizes—September Show	...	21	10	0				
October	...	45	10	0				
November	...	245	14	0				
December	...	51	4	6				
Medals awarded and Engraving	...	63	11	0				
					427	9	6	
Medals and Engraving—Affiliated Societies	57	18	6	
Cartage	5	10	4	
Judges' Fees	15	15	0	
Judges' Floral and Staff Luncheons, &c.	24	16	10	
Bill Posting, as per contra	10	14	0	
Advertisements in Horticultural Press	18	3	0	
Hire of Plants	7	18	6	
Hire of Rooms	5	15	6	
Expenses of Annual Dinner	17	19	5	
Printing	60	2	1	
Stamps, Telegrams, &c.	34	15	5	
Sundry Expenses, including Labour and Assistance at Shows	39	9	5	
Stationery	15	9	5	
Clerical Assistance	75	0	0	
Bank Charges	0	18	0	
Commission, obtaining Advertisements	1	17	6	
Printing 1894 Catalogue	14	0	0	
Expenses Floral Committee, 1894 and 1895	6	18	10	
Foreign Corresponding Secretary's Account	2	17	11	
Donations to Royal Aquarium Employés	2	2	0	
Cost of Presentation to R. Ballantine, Esq.	6	4	1	
Drawing Pins for use of Exhibitors	1	8	0	
Arrears of Prize Money, 1894	0	10	0	
Forest Gate Society—Overpaid on Medal Account	0	8	6	
Balance	65	7	8	
					£919	9	5	

Compared with the Vouchers and found correct,

THOMAS C. WARD } Auditors.
GEORGE J. INGRAM }

February 20th, 1896.

RICHARD DEAN, Hon. Secretary.

	EXPENDITURE.	£	s.	d.
Editor's preliminary expenses	...	1	8	6
Photo of challenge cups and trophy	...	0	6	0
Block of Sir E. Saunders	...	1	10	0
Printing	...	40	0	0
Engraving	...	5	0	0
Bank charges	...	0	4	2
C. H. Payne's account	...	13	5	6
Balance	...	45	11	8
		£107	5	10

The Secretary further remarked that they had received towards the Jubilee Fund—

	£	s.	d.
Donations	225	6	6
Special prizes	165	18	0
Plate and medals	41	5	0
	£432	9	6

Several other sums were also handed in at the meeting.

Continuing, Mr. Dean said that they considered the above amount most satisfactory, but a further sum of about £150 was required before the Committee could go on with the preparation in real earnest. This, he hoped, would be forthcoming, in order that the great Jubilee of the Chrysanthemum Society could be made a success, which he hoped would be the case, and that above all a financial success.

The adoption of the report and balance-sheet was then moved by the Chairman, seconded by Mr. B. Wynne, and carried unanimously.

On the motion of Mr. B. Wynne, seconded by Mr. C. Harman Payne, a vote of thanks was accorded to Messrs. T. C. Ward and G. J. Ingram, who had so carefully audited the accounts.

The Chairman then moved, "That this meeting of members has learned with great gratification that Sir Edwin Saunders has kindly consented to be elected President during the Jubilee year, and thanks him for his generous support of the Society during the time he has filled the presidential chair." Mr. T. W. Sanders seconded the motion, which was carried with acclamation.

Mr. G. Gordon proposed that Mr. H. J. Veitch be appointed a Vice-President of the Society. Mr. R. Dean in seconding the motion spoke highly of the services rendered by Mr. Veitch both to this Society and horticulture generally. Carried. On the proposition of Mr. Waterer, seconded by Mr. H. J. Jones, Mr. J. R. Starling was re-elected Treasurer, and the thanks of the meeting accorded to him for his services. Mr. Bevan moved that Mr. B. Wynne be again elected Chairman and be thanked for his indefatigable efforts on behalf of the Society in the past. Mr. H. Cannell seconded the motion, which was carried amidst applause. Mr. Wynne briefly replied, thanking those present for the honour they had done him, and assured them so far as he was able he should do all in his power for the Jubilee effort, and he took this opportunity of urging every other member to render all possible assistance in order that in after years it might be looked back on as a great success.

Mr. Taylor moved the re-election of Mr. T. W. Sanders as Vice-Chairman of the Committee, which was seconded by Mr. Whitty and carried. Mr. Moorman moved that Mr. R. Dean be re-elected Honorary Secretary of the Society, and Mr. C. Harman Payne Honorary Foreign Corresponding Secretary, and that a hearty vote of thanks be accorded to these gentlemen. The proposition was carried with acclamation, and both briefly and suitably replied. Mr. R. Dean moved that Mr. G. J. Ingram be re-elected as one of the Auditors, and that Mr. H. Cutbush be elected as his colleague in place of Mr. T. C. Ward, who is unable to attend, this proposition being agreed to.

The next business was that of electing the Committee for the ensuing year. All the retiring members being eligible, they were nominated together with nine others whose names were handed in. A poll therefore being necessary, Messrs. Sanders, Needs, Bevan, and Taylor were appointed scrutineers, and, after counting the voting papers, the following twelve were declared duly elected, the number of votes polled in each being also given:—Messrs. H. J. Jones, 66 votes; R. Ballantine, 63; G. Gordon, 62; D. B. Crane, 57; G. Stevens, 57; E. Beckett, 56; N. Davis, 56; C. Gibson, 53; W. Davy, 50; J. Wright (Inner Temple Gardens), 45; J. McKerchar, 36; and G. Walker, 28. As no other business was forthcoming a hearty vote of thanks to the Scrutineers and the Chairman brought a most harmonious meeting to a close.

THE LATE MR. JOHN CHEAL.

ON page 163 last week we announced the death of this well-known veteran in horticulture. In doing so we inadvertently printed his Christian name incorrectly, and in doing so apparently misled some of our contemporaries. John Cheal, not "Joseph," was born at Crawley in 1800. The "Sussex and Surrey Courier" tells us that his father who was also named John, established a thriving grocery business, to which "young John" succeeded about 1830. To this business he added seed stores, which formed a provincial depôt for farmers and gardeners. Eventually he bought a portion of Lowfield Common, and engaged in farming. In course of time, to quote from our contemporary, his two sons, Joseph and Alexander, were growing to manhood, and in seeking to make provision for them he considered he saw an opening for a first-class firm of horticulturists. Thus it was that in 1871 the Lowfield Nurseries were opened. The acreage was in a small way at first, but the idea took so well that there was a marked increase in a few years. This one fact—if we had no more—would surely justify the claim the late Mr. Cheal had of being a far-seeing man. Before his eyes closed finally on the things of this world he saw around him one of the finest establishments of its kind in England. True it is that for some years he had not taken an active part in the management, but in crediting his sons who have shared this responsibility the guiding hand should not be forgotten.

Mr. Cheal was always of a shy and retiring disposition, and rarely was he to be found mixed up in any undertaking outside his home. He was a prominent member of the Crawley branch of the British and Foreign Bible Society—a creation of his father's. But, more than all, he loved to help the Society of Friends, and till infirmity compelled him to desist he was a regular attendant at, and a zealous supporter of, the little meeting house at Ifield.

It all seems so long ago now that we are unable to appreciate those

stirring events amidst which John Cheal was brought up. Nelson was scouring the seas, Bonaparte was scheming the invasion of England. Then came boyhood and school life at Ackworth, in Yorkshire. Till he was fifteen years of age the world was in the thick of the Napoleonic wars. Those who lived in Sussex, as young Cheal did, may have been more than usually interested, for history tells us there was a current rumour that Napoleon intended to land somewhere on the shores of this southern county. One reminiscence of those days Mr. Cheal has often brought to mind. When returning from Ackworth school in 1815 he saw from the top of the coach the long white flag (about 24 feet) flying from the Tower of Crawley Church signalling the victory of Waterloo. He remembered, too, the common sight of the Georges (George III. and George IV.) driving from London to Brighton, and would tell how he stood outside the George Hotel at Crawley, where their Majesties always lunched, and watched the changing of horses. The Coronation of Queen Victoria took place when Mr. Cheal was a young man, and it must have been with a ripened scholarly mind he viewed those exciting social revolutions which have since from time to time taken place amongst the English people.

Ackworth School, Yorkshire, had been opened about thirty years when Mr. Cheal went there and it was then, as it is now, the leading school of



FIG. 28.—MR. JOHN CHEAL.

the Society in this country. In the latest issue of the "Proceedings of the Ackworth Old Scholars' Association," there are some interesting particulars concerning the late Mr. Cheal. The Secretary, in his report for 1894-5, says: "Another Friend is a real Old Scholar, perhaps the oldest Ackworth Scholar living. He says he entered the school in 1812, three weeks after the two Elm trees were planted at the bottom of the 'green' to commemorate Robert Whitaker's marriage with Hannah Dumbledon. It took him three days and two nights to get to Ackworth by coach."

Further, we read that at a meeting of the London branch "Joseph Cheal, of Crawley—the son of John Cheal, spoke of his father being very much interested in receiving a 'List of Ackworth Teachers,' and he remembered many of the incidents therein related. It might be interesting to the meeting if he mentioned an incident connected with a general meeting more than half a century ago. His father had seen a young Yorkshire Friend, to whom he had taken a fancy, and wishing to see her again he set off to attend the Ackworth general meeting and returned to his own monthly meeting a short time after. One of his jocular friends at this monthly meeting whispered round to the others that John Cheal was to come before the meeting for going down into Yorkshire fox-hunting. When the business came on John Cheal 'appeared' before the meeting to declare his intention of taking one Mary Fox in marriage. He might add that he also had once come to attend a general meeting on the same errand as his father."

For some time Mr. Cheal had naturally been unable to take an active share in the business. There was no disease beyond the ordinary ravages of years. Since Christmas he seemed to fail more perceptibly, and Dr. Martin, his medical attendant, began to observe signs which gave him anxiety. About a fortnight ago Mr. Cheal caught a slight cold. Still nothing untoward was apprehended until about a week before the close. Yet all the family were present when the end came, and peacefully and calmly the soul passed away.

Mr. Cheal made no secret of his belief that care of the body pro-

longed his years. He was not strong in youth, but became a total abstainer, a non-smoker, and a vegetarian with distinct success.

The funeral took place at the Friends' Meeting House at Ifield last Saturday, and a gathering of 250 people assembled to pay a tribute of respect to one whose name will long be cherished in the district.

After he became a nonagenarian Mr. Cheal was remarkable for his physical and mental activity. He was a most urbane and loveable man, a little time spent in his company having been a source of delight to many visitors to the nurseries.

THE ISLAND OF TRINIDAD.

AFTER reading "Brother J.'s" letter to "Brother" "K., Dublin," I was in raptures, and longed for such a state of bliss as seemed to reign in that earthly paradise. It makes one envious to read of Crotons as large as Laurels, Poinsettias and Caladiums growing rampant, Roses and Vines yielding respectively two crops a year, Cocoa Palms and Nuts in abundance, Pines, Bananas, and other luscious fruit everywhere, the scenery, too, so varied and so beautiful. The life of "Brother J." should be one continual round of peace, joy, and contentment, which all of us who read his fascinating description must long for a taste. With envious feelings I closed the pages of the Journal to find a change in the columns of a provincial daily paper, when nearly the first thing I came across was the enclosed paragraph—

"SOME DRAWBACKS OF TRINIDAD.

"If it were not for the incessant rain, the scorching sun, the dampness, the intense heat, the malarial fever, and the truly appalling insects, Trinidad would be an earthly paradise, but these items form a formidable serpent. The lizards and snails here lay eggs, as well as the snakes, out of which emerge little ones. In one garden that I saw the ground was quite full of trap-door spiders' nests. Little green frogs run about the walls. Huge brown frogs come up from the wells at night, and seek for crumbs on the floors of the downstairs rooms. Centipedes, many inches long, and with bodies as stout as one's finger, seek whom they may devour, and are very venomous. As windows and doors are open, and woodwork of the trellis description abounds, it is impossible to keep away insects. I had been told of these sociable brown frogs, and had seen them sitting on the lower steps of the well, but forgot about them one night. One night I heard an odd noise on the floor, so got out of the mosquito curtains to investigate. My bare foot came down on what felt like a moving fungus. When my horrified struggles with a match and candle were ended, and I was able to see my visitor, it proved to be a frog, that looked quite intelligent, squatting upon the floor with neat bandy legs and large blinking eyes. I found three others poking about in the next room all of the same immense size, and appearing to sit about 7 or 8 inches high. Iguanas, too, are not uncommon, and as you watch their curious faces they suggest elves looking down from the trees.—('Zig-Zag Travels,' by Charlotte Roper.)"

What a change! "Brother J." gave us the bright side of Nature and forgot to include such pleasant things as centipedes, lizards, snakes, frogs, mosquitos; and on second thoughts I concluded the best place was "Old England" after all.—GEO. DYKE, *Stubton Hall Gardens*.

GRAPE GROWING FOR MARKET.

IN your issue February 6th was the report of a paper read by Mr. Colebrooke of Great Grimsby on "Grape Growing for Market." I have been a grower of Grapes for market for fifteen years, and certainly have not attained such astonishing results as recorded by Mr. Colebrooke. A few more particulars as regards "length of rod," and how many rods to each Vine, would be interesting, also how those Vines that were figured in the Journal a few years ago are behaving now. Are they still carrying such enormous crops, and finishing them black as Sloes and large as Orleans Plum, three bunches on a spur? Judging from my own experience in and observations on good Grape-growing under favourable conditions in several parts of the country, I feel that many of us must be greatly behind such men as Mr. Colebrooke. Does he attribute such grand success to his fish manure? It was rather interesting to note after the last discussion in the Journal (*re* "Express Grape Growing") that both parties who claimed such grand results had a special manure to offer to the public. It is not usual for Grapes of high quality to sell at 6d. to 8d. per lb. Will Mr. Colebrooke state the average price realised last year? The information would afford readers of the Journal some evidence as to the quality of such enormous crops.

I should say that a circulation of air through the bottom of a border is not at all necessary for producing first-class Grapes of any variety. In planting young Vines it depends on what time of year they are planted, whether or not they are benefited by having all the soil removed from the roots. Those planted in the spring when just pushing I should certainly shake quite free, and spread evenly across the border. Vines planted when in full growth should not be shaken free of soil, but this only loosened without damaging the roots. I do not think it of much consequence what time of year we plant, having had good results. I should doubt the benefit of using leaf soil in Vine borders, and should not think of using it. I have found firm short-jointed canes to produce good and lasting results, not short pithy growth, which I should be afraid the leaf soil would encourage. Wood ashes I think beneficial in moderation, also the leaf soil as a mulch on the surface.

As regards the cropping of Vines, all depends on the condition they are in and the treatment given. I have had single rods carry 30 lbs.

and over of well finished fruit, that realised wholesale 2s. to 2s. 6d. per lb., but should not expect to produce such fruit by carrying three bunches on a spur, nor have I ever seen any Grapes worthy of the name where such ideas were put in practice.—SCEPTICAL.

I WOULD like to ask Mr. C. Colebrooke a few questions through the medium of the *Journal of Horticulture*.

1, Was he in a private establishment, or was he growing for sale at the time he speaks of in his paper on the above subject?

2, How much glass had he planted with Vines, and were the houses lean-to or span-roofed?

3, What length, and how many rods are there to each Vine, to carry sixty-six bunches of Gros Colman?

4, How many bunches were there on each Black Hamburgh, and what was the average weight in each case?

5, Was 6d. or 8d. the average price of his Grapes?

6, Is Great Grimsby a bad keeping place for Grapes, as Mr. C. Colebrooke says the period over which Hamburghs extend is "never" longer than three weeks?

7, Had he as good a crop of Grapes the second and third years as he had the first?

8, What is his estimated cost of a vinery erected and planted complete in the style he describes, size 72 feet by 14 feet, three-quarter span, against a wall 10 feet high?—DUBIOUS, *Leicester*.

[We shall only have space for brief and categorical replies to this series of questions.]

YOUR correspondent "R. P. R." in his report of my paper on the above subject before the Liverpool Horticultural Association made one or two mistakes. First, he states cross drain tiles were put through the wall and drainage, and carried upright on the opposite side, this being considered of the greatest importance, and reducing to a minimum the risk of the border becoming too "dry." It should be, 3-inch draining tiles are put through the border, on the top of the drainage, the tiles being 1 inch apart, to admit a free circulation of air through the border, and prevent the border becoming too "wet," not "dry."

Second, the report states, The first week in August I consider a good time to plant, starting the Vines the following year. The second week in February, as a matter of fact, I recommend as the best time to plant Vines, as then we have the whole season before us to grow the Vines for the following year's fruiting.—CHARLES COLEBROOKE.

FRUIT AND FLOWERS IN EGYPT.

THE first flower show held in Cairo took place at the Ezbekieh Gardens, on the 21st January, and it was a success. No more beautiful *locale* for such an event can be imagined than the Ezbekieh Gardens themselves, with their spreading Banyans, great tropical flowering trees, feathery Palms, and clumps of graceful Bamboo. And Cairo itself, in winter, with its wealth of Roses, and squares aflame with gorgeous Poinsettias, might well deserve the name bestowed on Florence, but only as regards profusion.

Floriculture has hitherto been little practised as an art, perhaps because Nature is so lavish, and as far as individual specimens are concerned it is not likely that anything at the Cairo flower show rivalled what can be seen in England. But if an impetus is given to floriculture wonderful things may be achieved. There was also a section for fruit and vegetables. The indigenous fruit may almost be said to begin and end with the Date; but among the aliens the Orange has established for itself a supreme right to naturalisation.

Anyone who has wintered in Egypt will testify to the abundance and the quality of the Oranges, than which there are no better in the world, and one variety, the Tangerine—the Yussuf Effendi of Egypt—is unrivalled. No idea of that superb fruit can be formed from the diminutive and often insipid specimens on the English market. The Apricot, under the name of *mish-mish*, has become a national fruit, but its season is short, and the first Khamseen brings the fruit, glowing hot, down from the trees in showers. It is small in size, for it is left practically to grow wild, but excellent in flavour. Peaches are only grown in very small quantities at Kalioub, a few miles from Cairo, and in some private gardens. The Mango and the Custard Apple, as produce, are insignificant in quantity.

There seems to be no reason why Egypt should not supply herself with Grapes instead of importing them from neighbouring Mediterranean countries. Those grown at Alexandria by Sir John Antoniades are almost world famous, and not a few Europeans have planted vineyards with success. But apart from the Date, Oranges are the principal fruit of Egypt, and one which might be turned to advantage for export. The groves attached to the Khedivial Palace at Kubbeh are a sight to be seen. In vegetables, the Bean (*fûl*) and the Onion (*bassal*) have been the food of the people from the time of the Pharaohs, and, probably, the *figl*, the excellent and hygienic large white Radish. Cucumbers, eaten young, are an enormous item of popular food, and Vegetable Marrows, also plucked small, have become almost as general. Tomatoes are ubiquitous and perennial, and as excellent as they are plentiful.

The vegetables, which have been introduced from Europe at a comparatively recent period, have, with the exception of Potatoes, been cultivated with fair success, but they have a tendency to become large and coarse. The brobdignagian Cabbages, Cauliflowers, and Lettuce are startling, but, as a rule, all vegetables must be plucked at a much earlier stage in their existence than they would be in Europe.—(*Echo*.)



HARDY FRUIT GARDEN.

Pruning Cob Nuts and Filberts.—Nuts grown on the restrictive method, which is on the whole the best, need special attention about this time in order to prune away superfluous parts, such as unfruitful wood, suckers, reducing lateral shoots furnished with staminate blooms in quantities more than sufficient for the purposes of fertilisation.

Nut trees produce monoecious—that is, male and female flowers distinct on the same plant, usually known as staminate and pistillate flowers. Staminate blossoms are termed catkins. They depend conspicuously from the branches and have a brush-like appearance. Pistillate flowers are inconspicuous. They are visible in March, being found at the apex of rather swollen buds, and protrude when fully open thread-like crimson styles. The pollen of the staminate flowers becomes ripe at the same time, and being set free falls on the stigmas of the pistillate flowers below, effecting fertilisation.

Pruning Fruiting Bushes.—The object in pruning is to retain nothing but useful parts. If pruning is carried out before the flowering period, a sufficient number of shoots containing catkins distributed as evenly over the trees as possible must be retained. These can be shortened after flowering. Long lateral shoots bearing the female blossom buds may be shortened to these. Short twiggy growths can be left full length, the terminal bud being fruitful. Shoots barren of blossom buds may be shortened closely in for producing successional growths.

When catkins are scarce on any particular bush some must be procured from more liberally furnished trees and hung in convenient positions for dispersing the pollen.

Removing Suckers.—It is imperative that suckers be eliminated, because the strong growth they invariably assume robs the bushes of valuable support. Strong portions may be planted elsewhere if necessary to increase stock.

Pruning Young Plants.—New plantations are best formed from suckers planted in the autumn. In forming a specimen into trained shape from suckers, a single stem of the latter must be shortened to 18 inches, if strong; if weakly, shorten near the ground, training up one stem, thus giving another year's growth. Prune to 18 inches the next autumn. The buds at the apex of this shoot will break into growth in the spring, furnishing shoots, six of which should be selected, training them outwards, and forming a basin-like shape, which will finally constitute the form of the bush. When six shoots of equal strength cannot be had, utilise three of the strongest, shortening them in the winter to 4 inches, taking up two shoots from each, which will make up the number to six. If more are required to form the framework of the bush they may be originated in the same way. The shoots are easily trained if a wooden hoop is placed in the centre, to which they can be secured. The main stem below the shoots must be kept clear of growths issuing from it, and suckers from the base rigidly kept down. The branches in the course of formation require each year to be shortened to two-thirds of their length, in order that lateral shoots may be produced, these being cut back in autumn to buds near the stem. Growth that push strongly during the summer season ought to be pinched, as it is important to regulate growth so that no part robs another.

Planting Raspberries.—Raspberries require deep, rich, well-worked soil. In its preparation it is advisable to be liberal with manure for the benefit of the stronger roots, which descend deeply, and are the means of establishing the plants firmly in the soil. This encourages vigorous growth the first season. Robust suckers may be planted either in lines or clumps, in rows 5 feet asunder. The clumps may be 3 feet apart in the rows. In no case ought fruit to be expected from plantations the first year. Cut the canes closely down to the ground, which will prevent the possibility of any fruiting the first season, but insures a desirable growth of woody stout fruiting canes for the following year. A surface mulching of manure encourages the formation of fibrous roots, and maintains the moisture necessary to retain them near the surface.

Blackberries.—On strong rich soil, well enriched at the outset with manure, and thoroughly worked, several rows of this fruit prove most profitable and useful towards the autumn. The plants require some time to establish themselves after planting, and to enable them to carry this out satisfactorily fruiting should be deferred until the third season. Young plants are the best to insert. Cut them down close to the ground the first season—that is, immediately after planting. Treat them the same the following winter if the growth has not been of sufficient length and vigour. The longer and stronger the canes are the better will be the crop. Plant in clumps 5 feet apart, the lines or rows of these being 8 to 10 feet asunder. Drive down stout stakes to each clump, leaving them about 6 feet high, also midway between. To these attach horizontal and diagonal pieces, forming a trellis on which the long vigorous growths may be trained when they are in time produced.

Select a sheltered position for Blackberries. Though naturally of robust growth and constitution, yet they do not like full exposure to the action of cutting winds.

A manurial mulching after planting is beneficial. Annual applica-

tions of manure spread over the space between the plants are necessary for affording support to the abundant surface roots, and encouraging the production of good crops. At each annual pruning thin out the weakest growths, retaining only five or six of the best to each clump of roots.

FRUIT FORCING.

Vines.—*Earliest Forced in Pots.*—Any check, either through dryness at the roots or aridity of the atmosphere, is unfavourable to the health of the Vines and the swelling of their crops. If the roots cannot have the run of the fermenting bed, either place a ring of turf about 3 inches wide and deep on the rim of the pot, extending over about half an inch, and secure just within the rim with galvanised wire pegs, or place strips of zinc 3 or 4 inches deep round the tops of the pots, inserting them just within the rim, which, as in the former case, will form a dish, and this should be utilised for top-dressing with a compost formed of equal parts good turfy loam and thoroughly decayed manure, intermixing with it a handful of soot and air-slaked lime mixed to every peck. This, in equal parts of soot and lime, will sweeten the soil and render its components more readily available, whilst contributing nourishment directly. If the pots are plunged in fermenting material or stood on pedestals with that brought up to the rims, strips of turf about 3 inches thick should be laid over the rim to form the necessary dish. Keep the Vines watered with weak liquid manure at the same temperature as the medium in which the roots are growing, and where the Vines extend their roots into the plunging material keep this and the turves sweet, there being nothing like active feeders and plenty of wholesome food to secure well-filled berries and their satisfactory finish. Avoid, however, any approach to soddenness of soil.

To encourage the swelling of the berries keep the laterals below the fruit somewhat closely stopped, but allow those above the bunches more liberty, yet avoid overcrowding the space with foliage that cannot have full exposure to light. The earliest started are stoning, and this is a critical time, necessitating careful treatment, especially in ventilating, taking care to avoid cold currents of air, which frequently cause "rust," and harden the epidermis, so that the berries do not afterwards swell freely, and in some varieties cause cracking. Ventilate early in the day, affording a little air at 70°, increasing it with sun heat to 85°, closing between that and 80°, and if an advance follow up to 90° all the better. Red spider usually puts in appearance, and should be prevented from spreading by sponging the first specks with a solution of soft soap and water, 2 ozs. to a gallon. The pest has a dislike of an ammoniated atmosphere, or moisture in any form; also of sulphur fumes and nicotine vapour. A genial condition of the atmosphere is, therefore, of primary importance, and when the air moisture holds a little ammonia the Vines profit, and the red spider is retarded correspondingly. Neat stable or cowhouse drainings, diluted with six times the bulk of water, answer for sprinkling; also Peruvian guano, 1 lb. to twenty gallons of water, dissolved and strained before use, applying it at the rate of about a gallon to a dozen square yards of surface, such as paths, and not for general damping purposes, which must be attended to two or three times, using the ammoniated water about twice a week, or regularly, for filling the evaporation troughs.

Early Forced Planted-out Vines.—Houses started early in December will now have set the fruit, and need to have the berries thinned, in effecting which lose no time as soon as it can be seen which are properly fertilised by their taking the lead in swelling. Remove badly set and ill-shaped clusters, seeking a full crop of good shaped, perfectly finished berries. Allow laterals to extend beyond the fruit where there is space for its exposure to light, yet do not encourage growth to the prejudice of the principal leaves. Attend to stopping frequently, for the alternating accelerations and checks to root action consequent on encouraging the laterals and then removing them by armfuls, are attended by the worst consequences to the foliage and fruit. Afford a thorough supply of liquid nourishment to the inside borders at intervals, as required to maintain the soil in a thorough moist condition, but do not supply it till the border is getting rather dry. If the Vines need feeding it is better to moisten the border properly with water, and afterwards supply the liquid, using about 4 gallons per square yard. A light mulching of short lumpy manure, such as is prepared for Mushroom beds, tends to encourage surface roots, but avoid fresh horse droppings in quantity, as they give off too much ammonia vapour, especially when the house is kept close.

Maintain a night temperature of 60° to 65°, 70° to 75° by day, advancing to 85° or 90° from sun heat, commencing to ventilate from 70°, keeping through the day at 80° to 85° when external conditions are favourable, closing between those temperatures, damping at the time or early in the afternoon. Avoid syringing the foliage and fruit, as however clear the water may appear there is danger of sediment, and almost invariably a deposit is inseparable from the use of the syringe over the Vines after the Grapes are set. All appears clear until those begin to colour, then the purple is seen stained with white and the golden hue marbled, in both of which it is a serious blemish. Outside borders should be protected against severe frosts and chills from cold rains or melted snow.

Early Muscats.—The house closed early in December and the Vines started by the middle of that month, with acceleration from the new year, will be approaching the flowering stage, and need a temperature of 65° to 70° at night, 75° to 80° by day, and 10° to 15° rise from sun heat, closing at between 80° and 85° when bright weather prevails. It is desirable to keep the points of the bunches well up to the light, indeed

Muscats never thrive beneath a dense canopy of foliage. When they commence flowering it is desirable to dust the bunches with a camel-hair brush and fertilise every one with the pollen of a free setting variety, that of Alicante being the most potent of any for Muscat of Alexandria and Canon Hall. Black or Muscat Hamburgh forces readily, but invariably sets badly and colours very indifferently, being little affected by cross-fertilisation, and is probably much nearer the species than any other high-class Grape. Madresfield Court is a decided improvement in respect of constitution, setting and finishing, but it seems by no means clear of some of its faults and should be carefully fertilised.

Early Muscats require inside borders, and to ripen early in June must be pushed ahead, the thing being to give plenty of heat and not pinch for air, for unless the foliage is well developed it will not bear the early summer sun, nor will the Grapes bear exposure to it without scorching or scalding. Muscats require plenty of nourishment at the roots, and revel in a border of rather firm gritty material of a sustaining nature, never being satisfactory in very light soils; but these are often made suitable by mulching and application of rather thick liquid manure. Lime is the measure of their health, especially phosphate, and that of dissolved raw bones allowed to lie until mellow, and then having some nitrate of potash and sulphate of magnesia added to it, suits Muscats admirably. It is lack of essential food that causes the white-edged leaf, and is one reason why Muscats are so much more difficult to do well than other Grapes.

Cucumbers.—Light and sun heat increase evaporation. Damp the house twice a day, and syringe the plants lightly early on fine afternoons. On cold nights 65° is ample, but in mild weather allow 5° more, maintaining 70° to 75° by day, and 80° to 85° or 90° from sun heat, closing early so as to increase and retain the heat at 90° to 100° for some time. Afford weak liquid manure twice a week, or top-dress with a fertiliser and wash in. If the plants are at all pale in colour use a little soot, and if the soil contains much organic matter mix with the soot two parts of air-slaked lime, and apply at once at the rate of half a pound per square yard, covering with a little soil to prevent loss of ammonia. Stop the shoots one joint beyond the fruit; thin these well, removing superfluous growths, bad leaves, tendrils, and male blossoms. Ventilate early and carefully, avoiding cold draughts and sudden depressions or fluctuations of temperature.

Melons.—*In Pits and Frames.*—Plants to have the shoots trained over the surface of the bed should be stopped at the second leaf before or after planting out, causing two or more shoots to follow, as growths sometimes spring from the seed leaves, and these in turn being pinched will give four shoots, two to be taken to the front, and two to the back of the frame. Other growths that appear near the collar of the plant should be rubbed off while young, not encouraging any laterals nearer the stem than 6 inches, as it is necessary to keep the neck clear. Stop the principal shoots when within a foot of the sides of the pit or frame, thus throwing vigour into the laterals, and the growths must not be crowded. The laterals will show fruit at the second or third joint, and they should be pinched one joint beyond the fruit, but not until the blossom is fertilised. Little water will be required, nevertheless maintain the soil in a moist state, but avoid a saturated condition. Cover the lights with double mats at night, and see that the linings are regularly attended to, renewing as required. Prepare materials for fresh beds and linings. Three parts Oak, Spanish Chestnut, or Beech leaves, and one part stable litter make the best beds, mixing the materials about a fortnight before it is desired to make the beds. In a few days it will be seen whether there is enough moisture to insure fermentation; if not, turn the whole, and sprinkle with water or liquid manure, and when in good heat turn the heap outside to inside, two or three turnings being required at intervals of about four days. Maintain the bottom heat at 85° to 90°, taking care, however, to prevent overheating.

Melon Houses.—For placing out young plants a ridge about 2 feet wide at the base with the top flattened, so as to give a depth of about 10 or 12 inches, is preferable to hillocks, though these may be made about the same in diameter as the width of the ridge, and its depth, having the centre where the plants are to be put out, which should be 2½ to 3 feet apart, according to vigour of variety. The soil must be firm, and when warm planting may be done, keeping the seed leaves clear of the soil. The leading shoots should be taken up two-thirds of the distance without stopping, then pinch out the point of each, and rub off the laterals to the height of the trellis. Some varieties show fruit freely on the first laterals, and as early fruit is a main feature in the case of the first plants allow them to remain, taking out the point of the shoot at the joint above the fruit at the time of fertilising the blossom. To allow all the laterals to remain would very much overcrowd the foliage, therefore rub off whilst quite young every alternate one. If the laterals do not show fruit at the second or third joint pinch them at those points, and the succeeding ones will show fruit. Train the growths thinly and regularly, so that every part is equally furnished with foliage, all having due exposure to light.

More moisture is now necessary in Melon houses, therefore sprinkle the paths and walls in the morning of hot days, and again at closing time or early in the afternoon. Ventilate carefully, avoiding cold currents of air, placing some hexagon netting or scrim canvas over the ventilators when the external air is sharp. Maintain a night temperature of 65°, 5° more in mild, and 5° less in severe weather, a rather low night temperature being better than a high one and a dry atmosphere, yet it must not be of long duration or the plants become stunted in growth. The day temperature should be kept at 70° to 75°, rising to 80° or 85° from sun heat, and closing early so as to run up to 90° to 100°.

Keep the bottom heat steady at 80° to 85°. Sow seed for raising young plants to sustain the succession, and shift seedlings into larger pots, or add soil as the plants advance, stopping those for frames at the second rough leaf, but not for trellises.

Strawberries in Pots.—The earliest plants now ripening their fruit should have a drier and more freely ventilated house, but there must not be any sudden change or the fruit will not ripen well. For swelling the temperature should be 65° at night, and 70° to 75° by day, advancing to 80° or 85° with sun, and plenty of atmospheric moisture, and after the fruit changes colour the atmosphere ought to be kept cooler and drier, so as to insure flavour. The second batch of plants have set well, and been thinned, a matter too frequently neglected. This enables the plants to produce large fruit, half a dozen being better than a dozen small, but regard must be had to the variety and the requirements. Give liquid manure copiously as often as required, examining the plants twice a day, in bright weather thrice, for the purpose. Plants in vineries and Peach houses come on successionally, and need not be moved except to meet special requirements. Strawberries of the larger varieties placed in span-roofed frames afford grand fruit a fortnight to three weeks earlier than those in the open ground. See to this at once if desired to have them.

THE BEE-KEEPER.

SEASONABLE NOTES.

WITH the exception of the 2nd, 17th, and 21st of February, when on each of these days the sun shone a little, the rest of the month in this county has been raw, the ground damp and cold; and although many flowers enliven the borders, Crocuses do not open nor dispense their pollen to the bees, which have been more or less on the wing since the beginning of the year. When they rest on the ground many never rise, and so far as I can remember this is the most disastrous year for them I ever experienced. Snowdrops began to open on the 2nd of January, and bees wrought on them, but got no pollen; much better for them had they been later. Hazels, Alders, and many other favourites have been out for some time, and the male Yews promise an abundant supply of pollen shortly. The Tussilago is showing in some places, and a few days' sunshine would be acceptable to the agriculturist and favourable for the bees.

It has been too chilly to entice bees out to pease meal, neither do I intend to give it, as a few favourable days will provide all the necessary pollen. All hives short of honey will be fed as fast as the bees will take it with 8 to 10 lbs. of the best sugar dissolved in equal proportions of water. This prevents the waste of eggs, and breeding goes on without interruption. If fed in small quantities it would have to be continued till the time bees are getting honey from the flowers, otherwise many eggs and larvæ would be destroyed. It is, in my opinion, always safer and more profitable when hives are managed so that no feeding in the spring is necessary. The entrances to all my hives will remain contracted till the bees are seen to make an effort to widen them.

The work for the apiary during the next two months will be getting hives and supers prepared for the busy time, and between the months of March and May, the time of the greatest drought, is the best time in all the year to paint. Always prime with genuine leads and ochre (the best French) and raw linseed oil, which should be used without dryers of any sort; indeed, for hives and outside work ground flint dusted over the newly painted surface will cause it to adhere better to the wood. It is the first coating of paint which is the most important towards preservation, and it is a good plan to use raw oil only for the first and second coats. This applies to wood, iron, or stone, of which the latter can be made lasting by oil alone.

On the first favourable day remove all accumulated debris from the floors, and burn or bury it. Be on the look-out for queenless hives or those having effete queens, or the bees from other hives will find them out and soon clear them of their contents.—A LANARKSHIRE BEE-KEEPER.

DOES BEE-KEEPING PAY?

THIS question is probably asked more frequently than any other in connection with bee-keeping, and I have no hesitation in replying in the affirmative. But to be successful the aim of all must be to obtain honey of the best quality, which can only be done by close attention to details. Any inferior samples should be fed back to the bees. By supplying only honey of the finest quality bee-keepers soon become known to the wholesale dealers, and will have no difficulty in finding a market for their produce, though prices are now low compared with those obtained a few years ago.

Taking one season with the other, and there are often several

indifferent ones in succession, the balance I have found to be on the right side. If, however, anyone imagines he is going to make a fortune at the business he will be disappointed, and after a short experience probably throw the work up in disgust. But as a fruit-grower, even if no honey were secured, I should consider myself well repaid by the extra crops of fruit obtained, a fact which is patent to all observers when the fruit trees are in bloom.

The moveable frame hive is recommended, and if the Standard frame is used there is, of course, no limit to the size of the hive, as it may be made as large as fancy dictates. But whatever size of frame or hive is used it is advisable to have all of the same pattern, as they will then be interchangeable, and be found useful for doubling and other purposes. I prefer those holding ten frames, although I have some in use holding upwards of twenty, but for all practical purposes and profit I prefer the former.

Much will depend on the source from which the honey is likely to be obtained and the stocks managed, so as to have them strong during the honey flow, always bearing in mind that a couple of strong colonies are worth half a dozen weak ones. If the chief supply is obtained from the fruit trees, April and May will be the time they should be at their best; if field Beans and White Clover are the sources, June and July; and if Heather, August and September. By having all hives overflowing with bees during the honey flow, and with favourable weather, success will follow.—
AN ENGLISH BEE-KEEPER.

TRADE CATALOGUES RECEIVED.

- K. H. L. Bell, Nether Witton, Morpeth.—*Pansies and Violas*.
W. Clibran & Son, Oldfield Nurseries, Altrincham.—*Seeds and Agricultural Seeds*.
E. P. Dixon & Sons, Hull.—*Agricultural Seeds*.
Hogg & Wood, Coldstream, N.B.—*Grasses and Clovers*.
Kohlmannslehner & Schwenke, Schöneberg, Berlin.—*Seeds*.
J. R. Pearson & Sons, Chilwell, Notts.—*Zonal Pelargoniums and other Plants*.
W. E. Tidy, Brockhampton Nurseries, Havant.—*Hardy Plants*.
Lonis Van Houtte, père, Ghent, Belgium.—*Plants and Flower Seeds*.
T. S. Ware, Hale Farm Nurseries, Tottenham.—*Hardy Florists' Flowers and Choice Hardy Perennials*.



- All correspondence should be directed either to "THE EDITOR" or to "THE PUBLISHER." Letters addressed to Dr. Hogg or members of the staff often remain unopened unavoidably. We request that no one will write privately to any of our correspondents, as doing so subjects them to unjustifiable trouble and expense.

Correspondents should not mix up on the same sheet questions relating to Gardening and those on Bee subjects, and should never send more than two or three questions at once. All articles intended for insertion should be written on one side of the paper only. We cannot reply to questions through the post, and we do not undertake to return rejected communications.

Grape Growing (Alpha).—We do not see in what way we can assist you in the matter; in fact, you do not appear to ask us for any advice, but simply enclose a letter. It would not be very far for you to travel and obtain information on the spot. We know of many splendid cultivators of different things who are the reverse of expert in composition and spelling.

Muriate of Potash (G. H. C.).—This most soluble of all the potash salts, is composed of, when the total potash is 52.01 per cent.; moisture, 7.52; muriate of potash (KCl), 82.44; chloride of sodium, (NaCl), 5.26; insoluble matter and other constituents, 2.28; chloride of magnesium, 2.50 = 100; analyst Macadam. It has no other name than muriate of potash, and is sulphate of potash treated with acid, which makes it quicker in action. The price is rather high, but relatively with sulphate of potash is the cheaper in use. There is a muriate of potash prepared from Beetroot, containing total potash (K₂O), 58.43 per cent., but 20.16 is sulphate of potash, and the muriate only 73.30 per cent.; while there are small amounts of carbonate of soda (1.02), and carbonate of potassium (0.195). Superphosphate and superphosphate of lime are the same thing, but there are several makes, such as bone, bone ash, or minerals (phosphatic) treated with sulphuric acid. Any of the manure dealers advertising in our columns can supply muriate of potash.

Grafting Apple on Plum or Damson (A. B.).—Only in one instance have we seen a successful union of the Apple with the Plum, and that was an Apple on a Wyedale Plum. We know of no recorded case of the Apple succeeding on the Damson, and all experiments known to us have proved futile. It is not, therefore, likely that you will have any success in grafting Apple scions on Plum or Damson stocks, nor is grafting very successful on Plum stocks, even with Plum scions; they are much better budded on young growths. It would be a waste of time and labour to operate on Plum or Damson stocks with Apple scions.

Seakale on Heavy Clay (Tooting).—This wholesome and very desirable vegetable does not succeed well on heavy clay, though when the soil is made free-working by ashes and gritty matter, also the addition of manure, with perfect drainage, it succeeds, and the heads produced are stouter and better than those produced by plants on very light soil. Sand is essential for all plants—not as a manure, but as a component of soil. Make the soil open, work and enrich it well, and it will grow fine Seakale. Salt is not necessary on heavy soil. A grower having scant supplies of manure found kainit, which contains salt largely, very serviceable in rather light soil.

Nectarine Stem and Roots Dying (J. M.).—The roots are not infested by any form of parasitic micro-organism, nor have they been attacked by any fungus. Their appearance suggests soil poisoning—soddenness, or an overdose or doses of strong liquid manure, or other disastrous treatment. Many trees have gone off this year by attacks of the larvæ of a certain moth, which infests the stem at the junction of stock and scion, giving rise to an exudation of gum and causing the destruction of the affected tree. You have not sent the stem, therefore we cannot form an opinion of it. The shoots are thick-jointed and brown, but the buds are nearly all "dead," and would have dropped under any circumstances.

Vine not Bearing (Seymour).—It is unusual, but not by any means rare for a Vine here and there to be unfruitful; this usually arises from excessive vigour and too close pruning. By allowing the Vine to make growths on the extension system, and shortening the canes at the winter pruning to round firm buds on firm ripe wood, merely removing the extremities, it is likely you would have a good show of fruit. But overcrowding the growths must be avoided. If you cannot do this, and we do not consider there can be such a thing as a tap root, it would be advisable to graft the Vine with an approved variety, and so secure a cane or more this year for bearing next season. In that way we have changed unprofitable for very satisfactory rods.

Orchid Definitions (Ignorant).—Terrestrial, as the term signifies in dictionaries, pertains to the earth or existing on the ground—that is, terrestrial Orchids grow on soil like ordinary plants, and derive nutrition from it, such as *Calanthes*, *Cypripediums*, and others. Epiphytal are those growing naturally on other plants, such as trees or even rocks, but do not (as generally accepted) obtain food from them, neither penetrating their substance nor absorbing their juices, such as the *Vandas*, *Cattleyas*, and others. Many epiphytal Orchids, however, are grown in pots for convenience, suitable material being used. To give a list of the different species and their requirements would fill several issues of the *Journal of Horticulture*. Consult a work on Orchids.

Grapes Stoning (W. A.).—We can only say what has often been said in these columns, that Grape stoning means that stage when the berries remain almost stationary after taking the first swelling after setting, or when from about half to three parts swelled, though the process commences earlier than the half-swelled stage, and it lasts until the Grapes take their last swelling for ripening, when they commence colouring. During the stoning period the fertilised ovule surrounds itself with a hard covering, called the stone, and within that is the perfect plant in embryo, furnished with growing parts and nutriment essential for germination and primary development. Indeed, though a seed, it is to all intents and purposes a plant with a separate existence from the parent when the fruit is perfected.

Endive and Chicory (H. M.).—The Endive would not do lifted when three parts grown at the end of September, and carefully planted in the soil in a greenhouse, with shelves under the roof filled with Carnations, for the drip from these would cause the Endive to rot in the heart, and be spoiled instead of sound and well blanched. The temperature is also too high for any but partially grown Endive, as it would develop nothing but leaves instead of forming a close heart. The better plan, even if you avoid drip, is to lift the plants and place them in frames, affording protection in severe weather, and where a regular supply is necessary employing fire heat if practicable. By keeping the Chicory roots in sand and introducing a certain number at intervals you may maintain a supply through the severest weather in the way you propose.

"Ant Eggs" for Gold and Silver Fish (E. S.).—The "eggs" are certainly not fresh, but the smell is peculiar to this "prepared" form of food, and we consider it very undesirable. It is sufficient to account for the slimy condition of the water, giving it a sticky oil-like adherence to vessels into which it is placed. The fish must have "sweet" water for obtaining the requisite oxygen—that is, pure air; the foulness of the water alone would prove disastrous to the fish. Your specimen swarmed with bacillus. Few substances are better for feeding gold fish than sweet, well baked bread crumbs or small wheat boiled until chipped. Too much of anything is bad for them, and food of a fleshy nature should be given very sparingly, and not any beyond what the fish take as fast as it is thrown into the water. We know that the real eggs of ants, if stale or putrid, will destroy gold fish.

Insects in Soil (C. E.).—The small white creature, just discernible by the naked eye, but easily recognisable by a pocket lens, belongs to the order Thysanura, *Latr.* (Springtails) and family Poduridæ, which are not "jumping," but only "run," and is named *Lipura fimetaria*, *Linn.* The species is very common, and may be found in damp earth throughout the year, subsisting on decaying matter, but often engaged in feeding on Carrots, Potatoes, or other roots, but whether it is the cause of the eaten places in which it is found is undetermined; yet it certainly takes advantage of any damaged part, if it is not actually the first and sole reason of the injury. It may be destroyed by dusting with quicklime, which should be worked into the soil with a fork, not injuring the roots of the plants, and it will not only rid the soil of the pests, but improve it in texture, and render the organic matter more available.

Perforated Vine Leaves (Seymour).—The holes appear to have been caused by some small insect, in general appearance resembling those of the black Vine weevil (*Otiorhynchus sulcatus*), which you may probably capture if sheets are placed on the floor before dark, and at night entering the house very carefully, and with a lantern kept dark, shake the Vine or Vines sharply, then turning on the light you may see the enemy on the cloth, where it will abide a short time feigning death, but, unless soon dispatched, will crawl away into darkness and safe hiding. It is possible, however, the holes are only caused by a slight scorching or an excess of vigour. The sponging would do no good, but possibly a little harm. The appearance is not uncommon on very robust Vines without any attack from insects, and merely arises from keeping the house too moist, and not ventilating before the sun has increased the temperature considerably in the morning.

Browallia elata (Junior).—A stock of this beautiful and very easily managed plant can readily be raised from seed sown in 4-inch pots previously crocked, and filled to the rim with a light compost consisting of three parts of sandy loam and one of leaf mould. Cover the seeds lightly with some fine soil, then put the pots in heat and cover them with a square or two of glass and a little moss, which must be removed as soon as the seedlings appear through the soil. From this time the seedlings should be gradually inured to light and air to prevent them from making a weakly growth, and with this object in view the plants should be grown on shelves near the glass. A board resting on a few flower pots or bricks in an early Melon or Cucumber frame would be a most suitable place in which to grow the plants in their earlier stages, protecting them from the ravages of slugs by dusting a mixture of fresh soot and quicklime along the board on each side of the plants. Three plants in a pot will be sufficient, and the superfluous ones should be pulled out before they become crowded, and be transplanted in 4-inch pots if necessary to increase the number of plants. If larger plants are desired a portion of the stock should be shifted into 6 or 8-inch pots, and those in the 4-inch pots should be top-dressed with a mixture of pulverised horse droppings and loam when the plants attain a height of 10 or 12 inches.

Names of Fruits.—Notice.—We have pleasure in naming good typical fruits (when the names are discoverable) for the convenience of regular subscribers, who are the growers of such fruit, and not collectors of specimens from non-subscribers. This latter procedure is wholly irregular, and we trust that none of our readers will allow themselves to be made the mediums in infringing our rules. Special attention is directed to the following decision, the object of which is to discourage the growth of inferior and promote the culture of superior varieties. In consequence of the large number of worthless Apples and Pears sent to this office to be named, it has been decided to name only specimens and varieties of approved merit, and to reject the inferior, which are not worth sending or growing. The names and addresses of senders of fruit or flowers to be named must in all cases be enclosed with the specimens, whether letters referring to the fruit are sent by post or not. The names are not necessarily required for publication, initials sufficing for that. Only six specimens can be named at once, and any beyond that number cannot be preserved. They should be sent on the first indication of change towards ripening. Dessert Pears cannot be named in a hard green state. (E. W.).—The Apple is in all probability a local seedling that has never had a name. (P. B. C.).—1, Bramley's Seedling; 2, Beauty of Stoke. 3, Cox's Orange Pippin. (R. M. S.).—The Apples are fine examples of Wellington. (B. G. M.).—1, Minchull Crab; 2, Lane's Prince Albert; 3, Round Winter Nonesuch; 4, Striped Beefing; 5, Brabant Bellefeur; 6, Lord Derby. (P. J. A.).—1, Bedfordshire Foundling; 2, Yorkshire Greening; 3, Tower of Glamis. (R. S.).—1, Josephine de Malines; 2, Nouvelle Fulvie; 3, Bergamotte Esperen; 4, Nec Plus Mearis. (R. M.).—The specimen sent closely resembles Dr. Harvey, though we do not think it is that variety. It is certainly an Apple of great merit.

Names of Plants.—We only undertake to name species of plants, not varieties that have originated from seeds and termed florists' flowers. Flowering specimens are necessary of flowering plants, and Fern fronds should bear spores. Specimens should arrive in a fresh state in firm boxes. Slightly damp moss, soft green grass, or leaves form the best packing, dry wool the worst. Not more than six specimens can be named at once, and the numbers should be visible without untying the ligatures, it being often difficult to separate them when the paper is damp. (E. S.).—*Cœlogyne* species; but the flowers were too much damaged for identification. (J. O'R.).—1, *Daphne Mezereum atro-rubrum*; 2, *Cotoneaster microphylla*; 3, *Berberis Darwini*; 4, *B. stenophylla*; 5, *Crataegus pyracantha* (seedlings of this vary in size of foliage); 6, *Abies cephalonica*. (N. G.).—1 and 2, forms of *Cattleya Trianae*; 3, *Cypripedium Spicerianum*.

GARDENERS' CHARITABLE AND PROVIDENT INSTITUTIONS.

THE GARDENERS' ROYAL BENEVOLENT INSTITUTION.—*Secretary*, Mr. G. J. Ingram, 50, Parliament Street, London, W.C.

UNITED HORTICULTURAL BENEFIT AND PROVIDENT SOCIETY.—*Secretary*, Mr. W. Collins, 9, Martindale Road, Balham, London, S.W.

ROYAL GARDENERS' ORPHAN FUND.—*Secretary*, Mr. A. F. Barron, The Royal Gardeners' Orphan Fund, Chiswick, W.

COVENT GARDEN MARKET.—FEBRUARY 26TH.

MARKET very quiet indeed.

FRUIT.

	s.	d.	s.	d.		s.	d.	s.	d.		
Apples, per bushel	2	0	to	4	6	Peachos, Cape, per case ..	8	0	to 10	0	
" Nova Scotia, barrel	13	0		17	0	Pears	8	0		10	0
Grapes, per lb.	1	3		3	0	St. Michael Pines, each ..	2	0		6	0
Lemons, case	11	0		14	0						

VEGETABLES.

	s.	d.		s.	d.		s.	d.		s.	d.				
Asparagus, per 100	6	0	to	6	6		Mustard and Cress, punnet	0	2	to	0	0	
Beans, per lb.	0	10		1	9		Onions, bushel	..	..	3	6	4	0
Beet, Red, dozen	1	0		0	0		Parsley, dozen bunches	..	..	2	0	3	0
Carrots, bunch	0	3		0	4		Parsnips, dozen	..	..	1	0	0	0
Cauliflowers, dozen	2	0		3	0		Potatoes, per cwt.	..	..	2	0	4	0
Celery, bundle	1	0		0	0		Salsafy, bundle	..	..	1	0	1	6
Coleworts, dozen bunches	2	0		4	0		Seakale, per basket	..	..	1	6	1	9
Cucumbers, dozen	4	0		10	0		Scorzonera, bundle	..	..	1	6	0	0
Endive, dozen	1	3		1	6		Shallots, per lb.	..	..	0	3	0	0
Herbs, bunch	0	3		0	0		Spinach, pad	..	..	0	0	4	6
Leeks, bunch	0	2		0	0		Sprouts, half siv.	..	..	1	3	0	0
Lettuce, dozen	1	3		0	0		Tomatoes, per lb.	..	..	0	6	0	9
Mushrooms, per lb.	0	6		0	8		Turnips, bunch	..	..	0	3	0	0

PLANTS IN POTS.

	s.	d.	s.	d.		s.	d.	s.	d.		
Arbor Vitæ (golden) dozen	6	0	to	12	0	Ferns in variety, dozen ..	4	0	to 18	0	
Aspidistra, dozen	18	0		36	0	Ferns (small) per hundred	4	0		6	0
Aspidistra, specimen plant	5	0		10	6	Ficus elastica, each	1	0		7	0
Azalea, per dozen	18	0		36	0	Foliage plants, var. each	1	0		5	0
Cineraria, dozen pots ..	6	0		12	0	Genista, per dozen	9	0		12	0
Cyclamen, dozen pots ..	8	0		15	0	Hyacinths, dozen pots ..	6	0		12	0
Daffodils, dozen pots ..	6	0		9	0	Lycopodiums, dozen	3	0		4	0
Dracæna, various, dozen ..	12	0		30	0	Marguerite Daisy, dozen ..	6	0		9	0
Dracæna viridis, dozen ..	9	0		18	0	Myrtles, dozen	6	0		9	0
Ericas, various, per dozen	9	0		24	0	Palms, in var., each	1	0		15	0
Euonymus, var., dozen ..	6	0		18	0	" (specimens)	21	0		33	0
Evergreens, in var., dozen	6	0		24	0	Tulips, dozen pots	6	0		8	0

AVERAGE WHOLESALE PRICES.—OUT FLOWERS.—Orchid Blooms in variety.

	s.	d.	s.	d.		s.	d.	s.	d.		
Acacia or Mimosa (French)					Narcissi, var., doz. bunches	0	9	to	2	0	
per bunch	0	9	to	1	6	Orchids, various, doz. blms.	1	6	12	0	
Anemone (French), dozen					Pelargoniums, 12 bunches	6	0		9	0	
bunches	2	0		4	0	Primula (double), dozen					
Arum Lilies, 12 blooms . .	2	0		4	0	sprays	0	6		1	0
Asparagus Fern, per bunch	2	0		4	0	Roses (indoor), dozen . .	1	0		2	0
Azalea, dozen sprays . . .	0	6		0	9	„ Tea, white, dozen . .	2	0		4	0
Bouvardias, bunch	0	6		1	0	„ Yellow, dozen (Niels)	3	0		6	0
Camellias, dozen blooms . .	0	9		1	6	„ Red, dozen blooms . .	3	0		8	0
Carnations, 12 blooms . .	1	0		3	0	„ Safrano (English),					
Cyclamen, dozen blooms . .	0	3		0	6	dozen	1	6		3	0
Daffodils, single, doz. blms.	1	6		2	6	„ Safrano (French), per					
„ double, doz. blms. . . .	0	4		0	9	dozen	1	6		2	0
Eucharis, dozen	3	0		4	0	„ Pink (French), per doz.	3	0		4	0
Gardenias, dozen	4	0		9	0	Smilax, per bunch	5	0		9	0
Geranium, scarlet, doz.						Snowdrops, dozen bunches	0	6		0	9
bunches	4	0		6	0	Stephanotis, dozen sprays	6	0		9	0
Hyacinth (Roman) dozen						Tuberose, 12 blooms . . .	0	6		1	0
sprays	0	4		0	9	Tulips, dozen blooms . .	0	6		1	6
Hyacinths, dozen spikes . .	2	0		4	0	Violets Parme (French),					
Lilac (French) per bunch	3	0		5	6	per bunch	4	0		5	0
Lilium longiflorum, twelve						„ Ozar (French), per					
blooms	2	6		4	0	bunch	2	0		3	0
Lily of the Valley, 12 sprays	0	6		1	0	„ Victoria (French),					
Maidenhair Fern, doz. bchs.	4	0		8	0	12 bunches	1	0		2	0
Marguerites, 12 bunches . .	2	6		4	0	„ English, 12 bunches	1	0		2	0



OATS.

"TEMPORA mutantur, et nos mutamur in illis." It is just the forgetfulness of this old and trite saying which is at the root of some of our failures, especially our failures from an agricultural standpoint. We do so hang to old customs, old manners, and old habits, ignoring the fact that the "old order changeth," and gives place to the new, if not better; the betterness we have often to prove. It does not answer now to be a

day behind the fair, and to pay landlord, labourer, and the rate collector, to say nothing of the provision for one's own household, taxes our utmost energies and causes us to strain every nerve. Twenty years ago Oats instead of Wheat! why, what a heresy to breathe such a thing, much less to carry it out! The farmer, guilty of such a misdemeanour would run the gauntlet of adverse criticism at every market ordinary for miles round, and might see, if he chose, the covert sneer of his workmen.

Grow food for horses instead of men! what folly! It has taken us long to realise that we ourselves cannot possibly provide bread stuff for our ever-increasing population, that from far distant lands rich argosies must pour into our markets endless quarters of golden grain, grain which in dryness and colour far surpasses aught that we could produce in this our colder and less sunny clime. To be dependent on the foreigner for the very bread we eat! What a state of things! All our rich Wheat lands that we looked on as the backbone of our prosperity practically given up because by no mode of culture known to us can they possibly make adequate returns in face of bad prices and severe competition. Even if it paid to grow Wheat, we are now far too luxurious in our tastes to go back to the dark coloured, heavy, indigestible bread of our childhood, bread that after a wet harvest was almost uneatable. Granted that after a fine harvest our own flour is much the "tastier" of the two, yet it is not so well (even at its best) adapted to culinary purposes as the dry flour from "furrin" parts.

The land has to be cultivated somehow, profitably if possible and what is there that can in a measure take the place of the Wheat crop? We must bring practical good sense to bear on the question, and, meeting the foreigner on his own ground produce something that is beyond his power of cultivation, or something that is far superior in quality; and if we get smaller profits than of yore, hope for quicker returns. We may, too, be less out of pocket by growing what requires less labour in production; though not for one moment do we advocate starving the land of good tilling. "In the sweat of thy brow shalt thou eat bread," holds good yet, and it is only by constant care and attention that the thistle and other noxious growths are kept at all under.

Oat's, at one time confined to the cold, wet districts of Scotland and Ireland, and to the high wold situations where Wheat would not grow, are now coming fast to the front as a more generally cultivated crop. So far we have not yet horseless carriages, and as no form of machinery, however complex and ingenious, can take the place of the weight carrying hunter, there is still a market for well grown nutritious Oats. Indeed, only the narrow-minded would confine the use of Oats to horses.

Has the animal yet been discovered to which Oats are injurious? We think not; the straw, too, is much more valuable as a food than either that of Wheat or Barley, especially in the case of cows, as it materially aids in the production of milk. Barley straw, on the contrary, would soon dry the best cow ever calved. Horses, too, work well on Oat straw, as it forms a good basis for the production of muscle. Indeed, for all young growing stock this straw stands next to hay as a staple article of food.

Oats, nutritious in the highest degree, are one of the most valuable of our cereals, and one capable of much improvement. Far seeing men know this, and prove it by introducing and growing new varieties by better culture, and by placing them higher on the dietary table. With our earlier, and generally drier, harvests, the English Oat crop stands a much better chance of being garnered without waste, and under proper management, must and does prove a most productive crop. In this early season it would be advisable to get the seed in at once, that is, on medium soils. On light, poor, or weak soils the sowing may be left at least a month later, so as to prevent

the young plant suffering from late frosts—frosts that no skill can guard against, or no power foresee—and hardy as the Oat is, it may still suffer considerably from frost. A well worked seed bed is desirable, but Oats will grow and do well without that extremely fine mould necessary to the Barley plant. Of course, if time and opportunity allow, make your mould as good as possible, but you may be sure of an Oat crop where one of Barley might be extremely doubtful. For instance, in a wet seed time, when the season is fast advancing, an Oat crop will grow where Barley would only be a failure.

Now-a-days a crop of Oats is often sown instead of Wheat on old seeds or ley; and here a great benefit is reaped by the farmer from his being able to guage the seeds up to the end of January. All farms have not an adequate acreage of grass; and, indeed, on any farm where a great head of stock is kept old seeds are extremely valuable, and make capital feed for in lamb ewes. On high wold and purely arable farms, this is an immense advantage. In preparing the land for Oats it should be ploughed at least six or eight weeks before drilling time, and when it is at all possible, the roller should be set at work to solidify the land as much as possible.

After "seeds," Wheat is very liable to grub, and so also will Oat's if not sown on a solid subsoil; and nothing is more disappointing than the loss of a crop from this (preventible) cause. After the corn is sown, out with the roller again to "sadden" the ground that has been loosened by the necessary working. To get a healthy well-rooted plant, this is an operation that must by no means be neglected. A leading authority of the day, in a well-known agricultural paper, speaks strongly in favour of "drilling" as against "broadcast" sowing, and gives 4 bushels per acre as the proper quantity of seed; he, too, suggests the desirability of drilling 2 bushels lengthways and 2 bushels across the field, and his reason for so doing is that the plant has a greater breathing space and more room to develop and expand. As Oat straw is such a valuable commodity increase its growth and stability as much as possible. Sulphate of ammonia, 1 cwt. per acre, and 3 cwt. of phosphatic manure will lengthen straw and strengthen grain.

Farmers are becoming more alive to the fact of the desirability for constant change of seed. It is not obligatory to always go to the expensive seed raiser, and to give fancy prices for an article that may or may not suit your land, but by a little judicious inquiry farmers may and do make "even swop" among themselves. During the last few years Oats have, by careful culture, improved greatly in quality, and we append the names of a few (very few) of the leading varieties; many more, and perhaps better ones will suggest themselves to the reader. All we want to impress is the fact that to make the most out of his land he must give it every advantage. It is the worst economy to say, "Oh! anything will do for seed." There will be a difference of some quarters per acre between good and bad, and these are not the times to throw away the slightest chance.

The great objection to Oat crops is their exhaustive effect on the soil—in fact, on light sand with gravel subsoil Oats should never be grown at all, except for some very urgent reason. On good land, a nice but not heavy crop of Barley may be grown after Oats—a "pretty" sample, but, of course, a good dressing of chemical manure will be necessary. Here are our selections of Oats:—

Garton's Abundance.—Yellow in colour, very heavy, and a good cropper.

French Black Cluster.—Very black in colour, of best quality among black Oats, early, and heavy croppers.

Black Tartarian.—The most popular and reliable; very productive, but varies much in quality, and is not in great demand for hunters.

White Canadian.—The whitest, thinnest skinned, and best quality of all; heavy, but not so prolific as the above named.

White Tartarian.—Long in the straw, but the corn very light, only suitable for weak land, or where rabbits abound.

Catterick Hero.—White, good quality, long in the straw; prolific, and not easily storm-broken.

WORK ON THE HOME FARM.

Another fine week, and spring seems almost with us. Migratory birds make their appearance quite a fortnight earlier than usual, and rooks are already busy housebuilding. Pastures are assuming a summer tint, but how long will they keep it up without spring rains? Already February is nearly gone, but it has sadly belied its cognomen of "fill dyke," and rain will soon be badly wanted; indeed, in the Midlands there is outcry now. Let us hope it may come and that soon.

Spring work proceeds merrily without a check. Already we hear of Oat drilling and Potato planting, 50 acres of the latter having been got in by one Midland grower early in the month. This may be right for late kinds like "Bruce," but with earlier sorts the risk is too great. Fallows are working splendidly, and another fortnight's drought will leave little work for early summer. This should result in a great saving of labour, and a long spell of well-earned and fully needed rest for the horses of the farm. Fencing should now be completed as quickly as possible, and ponds cleaned out when necessary, as every available gallon of water may be required during the summer.

Working of land intended for Mangolds should be finished at once, and the soil allowed a rest until sowing time, as there will be then a greater certainty of a plant. If a good dressing of short manure can be got on now, and ploughed in, all the better. Mangolds cannot be overdone with "muck" if it is well decayed and worked in during the winter. Spring Vetches may be sown, 3 bushels per acre where wild birds are plentiful, otherwise 2½ would be sufficient.

This season nitrogenous manures are very cheap, especially sulphate of ammonia, which can be bought at something like 7s. 6d. per unit of ammonia (what a contrast to the 18s. 6d. of twenty years ago), and as it is thus cheaper per unit than nitrate of soda it may be used with advantage for top-dressings. Where required for Wheat, however, we should advise its being put on at once and harrowed in, as it is much slower in its action than nitrate.

STORAGE OF CORN.

I DESIRE to call attention to an admirable and short article in the "Nineteenth Century" of February suggesting the storage of corn.

It argues that if the United States and Russia were at war with us we should get practically no corn. They could keep the immense supplies we now get from them at home, and fear of capture would prevent neutrals sending theirs in any quantity. There were only 15 millions to feed in the last great war; there are 40 now. Other nations accumulate gold for use in war time; why should not we have a war-chest of corn? What we shall want at the outbreak of a great war is time—time to tide over the first months of enforced famine; time to grow Wheat again. What we want is corn stored up in the country enough to last for twelve months. We should buy 25,000,000 quarters, which would cost £30,000,000. The money could be raised by the issue of Imperial Corn Bonds at 3 per cent., amounting to £900,000 per annum, which one penny on the income tax would pay, and also provide buildings. "We provision Gibraltar," says Mr. R. B. Marston, "for two years, and this country, the citadel of the Empire, with a week's supply!" May I hope you will give your wide circle of readers an opportunity of seeing this epitome of his article?—A. C.

NOTE ON EXPERIMENTS ON "FINGER AND TOE."

THE nature of the disease known as "Finger and Toe" has been often described, but many points remain to be explained with reference to the reaction of Plasmodiophora to its surroundings, and the following experiments are of interest as bearing upon the life history of this fungus:—

AT WHAT DEPTH IN THE SOIL CAN THE SPORES OF PLASMODIOPHORA RETAIN THEIR VITALITY?

It is well known that the countless micro-organisms inhabiting the soil are generally found comparatively near the surface, but, as far as I am aware, there are no investigations on this point with special reference to Plasmodiophora. In order to determine at what depths the spores of Plasmodiophora can be buried and still retain their power of germination, on April 19th, 1894, a series of parallel trenches, each 8 inches wide and 4 feet long, and of varying depths, were dug in a bed in the small botanic garden attached to the Durham College of Science. The bed employed had been carefully protected from the introduction of spores of Plasmodiophora; in the year previous it had been sown with Rye, and before that for some years had formed part of a bed of Gooseberry bushes, and no cruciferous weeds had been allowed to grow. It may, therefore, be considered to have been sterile as regards Plasmodiophora, and in a fit condition for experiment. The first trench was dug at a depth of 12 inches, the others at 10, 8, 6, 4, and 2 inches respectively.

On the bottom of the trenches was sown soil infested with Plasmodiophora obtained from badly diseased roots of the previous year, great care being taken that none of this soil came in contact with the sides of the trenches. The trenches were then filled in, and white Turnips sown above them. The Turnips were thinned by hand, and allowed to grow until September, when they were carefully dug up. No trace of "finger and toe" was found where the spores had been buried to depths of 8, 10, and 12 inches; at 6 inches a little "finger and toe" was found, while at the depths of 2 and 4 inches the majority of the plants were infected with the disease.

With a view to ascertaining whether the spores had been killed by burying to the greater depths, or whether they were merely dormant and would return to activity when brought nearer to the surface, the bed in the next year was dug over, bringing up the infected soil from below to the surface, and it was again sown with white Turnips in the following spring. It should be remarked that the bed received no manure, and was isolated as far as possible. On examination of the Turnips at the end of October, the distribution of "finger and toe" was found to correspond exactly with the result of the previous year, the roots on the ground above the 2 and 4 inch trenches were badly diseased; those over the 8, 10, and 12 inch trenches were entirely free, while only one root was infected at the site of the 6-inch trench.

From this experiment we may perhaps infer that the spores of Plasmodiophora, when buried to a depth of at least 6 inches, are destroyed, and therefore unable to affect the succeeding crop. The practical application as a remedy for "finger and toe" might possibly be carried out on a larger scale by deep ploughing, and thus burying the spores; and should the experiment be confirmed in actual practice, we have a means of preventing a recurrence of the ravages of Plasmodiophora. In a letter to the "Agricultural Gazette," August, 1894, Miss Ormerod recommends deep ploughing as a treatment for "finger and toe," and the above experiments support the soundness of the advice, and supply a sufficient reason for a belief in its efficacy. Whether it is always practicable or desirable to plough sufficiently deep to insure the burying of the spores, is a question which individual experience must decide.

In the second place we learn that any dressing applied to the soil as a cure for "finger and toe" cannot be effective unless its influence extends to a depth of 6 inches, and perhaps the various contradictory statements as to the value of certain dressings may be explained by supposing that their effect was too superficial.

When we consider the innumerable spores of Plasmodiophora left in the soil from a single diseased Turnip root, and the enormous multiplication of these in a whole diseased crop, it would seem to be well nigh impossible to apply any dressing, and so thoroughly mix and incorporate it with the superficial 6 inches of the soil as to insure the destruction of all Plasmodiophora spores, or render the soil unfit for their development. Yet this must be done if the dressing is to be thoroughly effectual. In this connection it is very important to bear in mind the part played by various micro-organisms in the soil; for example, those connected with nitrification, with the fixation of nitrogen from the air, and those which affect beneficially the yield of cereal plants, as has been recently shown by Caron. Any dressing applied to kill the spores of Plasmodiophora would in all probability destroy also these useful organisms. This destruction would certainly take place from the application of highly poisonous substances, and these, though removing the cause of the "finger and toe" disease, might act in a manner detrimental to the soil by eradicating also the very beneficial micro-organisms. These considerations lead us to question the advantage of such remedial treatment, and, recognising its very uncertain character, to place more reliance on other methods of prevention.—M. C. POTTER, *Durham College of Science*.

METEOROLOGICAL OBSERVATIONS.

CAMDEN SQUARE, LONDON.

Lat. 51° 32' 40" N.; Long. 0° 8' 0" W.; Altitude 111 feet.

DATE.	9 A.M.					IN THE DAY.				Rain.
	Barometer at 32° and Sea Level.	Hygrometer.		Direc- tion of Wind.	Temp. of soil at 1 foot.	Shade Tem- perature.		Radiation Temperature		
		Dry.	Wet.			Max.	Min.	In Sun.	On Grass.	
1896. February.	Inchs.	deg.	deg.		deg.	deg.	deg.	deg.	deg.	Inchs.
Sunday .. 18	30.648	34.9	36.2	N.E.	41.8	41.7	37.0	45.1	36.4	—
Monday .. 17	30.547	33.8	34.6	N.	41.0	42.7	35.8	64.9	35.3	—
Tuesday .. 18	30.311	32.4	32.7	N.E.	40.0	39.9	32.1	45.4	29.2	—
Wednesday 19	29.906	39.9	39.7	E.	33.4	34.4	31.7	70.9	26.3	0.014
Thursday.. 20	29.718	49.0	47.3	S.	40.6	52.9	40.1	56.1	35.8	0.076
Friday .. 21	29.785	45.6	45.6	N.W.	42.2	47.9	45.6	51.9	43.1	0.064
Saturday .. 22	29.978	36.4	33.2	E.	42.2	44.4	35.0	76.6	29.0	—
	29.935	39.9	38.5		41.0	41.3	33.8	58.8	33.6	0.154

REMARKS.

16th.—Overcast all day.
17th.—Fine, and generally sunny after 10 A.M.
18th.—Overcast throughout.
19th.—Fog early; almost unbroken sunshine from 9 A.M. to sunset; spots of rain at night.
20th.—Dull, damp day, with occasional spots of rain, and rain in evening.
21st.—Frequent drizzle, and slight showers; high fog about 4 P.M.
22nd.—Almost cloudless day and night.
Another fine week.—G. J. SYMONS.

VEITCH'S CHINESE PRIMULAS.

VEITCH'S SUPERB FRINGED RED ..	Per Packet, 2/6
VEITCH'S SUPERB FRINGED WHITE ..	Per Packet, 2/6
VEITCH'S SUPERB FRINGED MIXED ..	Packet, 1/6 & 2/6
VEITCH'S OHELSEA BLUE ..	Per Packet, 2/6
VEITCH'S OHELSEA ORIMSON ..	Per Packet, 2/6
VEITCH'S OHELSEA SOARLET ..	Per Packet, 2/6
VEITCH'S OHELSEA ROSE ..	Per Packet, 3/6
VEITCH'S GIGANTIO RED ..	Per Packet, 2/6
VEITCH'S GIGANTIO ROSE ..	Per Packet, 2/6
VEITCH'S GIGANTIO WHITE ..	Per Packet, 3/6
THE QUEEN AND HYBRIDS ..	Per Packet, 3/6
VEITCH'S SNOWFLAKE ..	Per Packet, 2/6
VEITCH'S DOUBLE RED, SOARLET, ROSE, WHITE, and MIXED ..	Per Packet, 2/6
VEITCH'S SPECIAL MIXTURE OF THE ABOVE (Double or Single) ..	Per Packet, 3/6 and 5/-

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VOTES FOR 50 JAPANESE VARIETIES.

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79 THOMAS WILKINS	56 EVA KNOWLES
74 ROSE WYNNE	49 RICHARD DEAN
68 VISCOUNTESS HAMBLEDON	46 WILFRED MARSHALL

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Journal of Horticulture.

THURSDAY, MARCH 5, 1896.

TREE FERNS AND THEIR TREATMENT.

BUT few exotics are better capable of presenting to one's mind the glories of more naturally favoured lands than Tree Ferns; and with some of the noblest of the species but few plants are more easily cultivated, provided their simple wants receive the attention they deserve. Unfortunately those claims to beauty often lead to their being placed in a position deficient in the primary essentials to their well-being; hence though life is maintained, that happy condition of robust health is wanting. Under the adverse conditions of culture represented, perhaps, by a conservatory sunnily situated in which atmospheric moisture is at a premium, unremitting attention with the syringe is able to keep them fairly presentable, but it is a necessary evil.

The ideal treatment under which the more popular of these beautiful plants luxuriate is the natural conditions of their native habitats, and the nearer these can be approached the maximum of satisfaction with a minimum of labour entailed will be afforded. In this family of plants the Dicksonias take a high, if not the highest, place, and it is as well to start with their treatment as afforded to them by Nature in their Antipodean home. Under our hands we should not presumably think of giving them the same treatment as the delicate Filmy Ferns, nor would it as a rule be wise to do so; yet the humid gullies of New Zealand, the happy home of Dicksonia antarctica, is also the habitat of some of the rarest and most beautiful of the Filmies, than of which there is none more so than Trichomanes reniforme. This, with other varieties, attaching its slender creeping rhizomes to the trunk of some fallen monarch. Hence atmospheric moisture rather than copious drenchings is the desideratum.

Failing the maintenance of this genial atmosphere in unfavourable positions the syringe will obviously, according to season or weather, play a prominent part. Yet moisture-yielding mediums, such as rockwork in its humblest form, boulders, small pebbles, in fact every stone employed, is a step in the right direction and a corresponding counterpoise to the arid atmosphere of an unsuitable house. Having had some

difficulties to overcome in dealing with Dicksonias similarly grown, simple details may be of service to some thus situated.

In one case, and it must be noted at this season of the year, it was desirable to transplant a fine specimen Dicksonia which had been established in the one position for some years. Originally it had been planted in a box 4 feet square, and afterwards sunk to the level of the ground floor, where the box had decayed. The task of lifting proved easier than anticipated, for a little straining at the trunk brought it clean away, leaving all the roots behind. Examination proved the bulk of these roots to be dead, live roots being only observable on the confines of the mass. Having to deal with a clean stem only, this was secured by wire bands to an iron pillar, and a little rockwork, with some turves of peat, was solidly built for some 18 inches up the base of the trunk. Attention to shading and damping was carefully given, and with the new crop of fronds which was put forth, vigorous root action from the trunk dispelled all anxiety for our specimen.

Noting what had resulted in this case, a smaller plant was taken in hand. This had been tubbed on until its receptacle had, from its size, become an eyesore. Moreover, if it could be reduced in size it would meet the purpose of occasional house decoration. The trunk was cut off above the surface with a hand-saw, and set into a pot just holding it, with a few handfuls of peat rammed round it. The fronds were reduced, and the plant temporarily transferred to warm moist quarters. It quickly made a beautiful little specimen, and when eventually planted in a small tub, which one man could easily pick up and carry to any temporary position, the success was, I think, sufficient to justify calling attention to the simple and effective measure; in fact I have scarcely seen a Tree Fern since growing in an unwieldy tub, but that the feeling arises to fetch a hand-saw and treat it likewise.

During the growing season Tree Ferns enjoy an occasional stimulant of weak manure or soot water, and this will be some aid in checking those enemies which lay wait in uncongenial surroundings. Thrips and red spider are apt to cause havoc ere they are noticed, for even the syringe may fail to dislodge them where the overlapping fronds prevent free ingress to water. Some years since I tried the experiment of mossing the stem of a Dicksonia, covering the whole trunk with fresh green moss bound on with wire. The experiment was a signal failure, and I would warn any who think of doing the same from repeating a process capable, I now believe, of killing off by degrees the healthiest plants.

Where a specimen of the Dicksonia antarctica is grown seedling plants frequently appear. These, in the first stage from the prothallus, may be easily mistaken for the common Lastrea; but a little discrimination will detect the difference even in that early stage. As these seedlings are of rapid growth there is corresponding pleasure in growing a few from the infant stage, and they make very handsome plants, distinct from common types in their rich glossy foliage, although years must elapse ere they develop into giants of the tribe. The almost as well known *D. squarrosa*, in its dark hued fronds and more restricted habit of growth, forms a pleasing specimen for limited space, and is well adapted to exhibition grouping.

That majestic Tree Fern *Cyathea medullaris*, with its widely arched fronds, is more rarely met with, but when seen in good condition cannot fail to impress the beholder. Thriving, like the Dicksonias, under greenhouse treatment, it appears to enjoy a more buoyant atmosphere than is conducive to the health of others. So with the *Alsophilas*, in which the aerial roots descending the stems are less conspicuous or practically absent till near the ground surface.

For a warm conservatory or tropical house, and if my choice was confined to one kind that would be *Cibotium princeps*; this elegant and graceful Fern taking, I think, precedence over *C. Schiedeii*, the latter, from its dwarfer stem and prostrate habit, better displaying itself when elevated to the vantage ground of raised rockwork or other more commanding position. Where

circumstances permit a dual view of all Tree Ferns alone does them justice—that is, a view from under, looking up at the feathery heads; and a view from above, looking down on or over the top.

This forethought has been admirably given in a cool fernery, planned and planted by Mr. Burbidge in the College Gardens, Dublin. The occupants are chiefly Dicksonias, informally growing in an excavated gully—glass covered of course. One walks among the stems on the low level, and ascends by steps in the bank to the higher, thus realising from all points of view the beauty of the occupants. Other Fern houses I have noted where more elaborate (but not more pleasing) details have been carried out by steps formed in rockwork with the same object in view. Many gardens there are, it is needless to say, possessing a Fern house in which these giants of the tribe are well and amply accommodated, but many more there are in which one or more specimens have to be grown in uncongenial surroundings. Such are worthy of any little helps a gardener can devise to make their lives as comfortable as possible, and in the doing afford their interested employers pleasure in these noble plants, as well as evidence of skill to overcome adverse conditions. In such places one or other of the kinds enumerated will be generally grown. Possibly, too, the unwieldy tub or pot will be the factor seriously discounting its appearance. In a permanent situation the removal of the tub or pot piecemeal, and replacing it by building up rough stones with plenty of peat for packing, will give satisfactory results; Lycopods, *Ficus repens*, or seedling Ferns giving a finish to the whole. Good fibrous loam is a satisfactory addition to peat under all phases of culture, but with loam of inferior quality peat alone is preferable—such, at least, is my experience, initiated many years since with a noted grower, and since confirmed by observation.—INVICTA.

HARDY FLOWER NOTES.

It seems but yesterday that the Snowdrops came for the season, and already many of their flowers have fulfilled their mission, and the plants they so adorned are now clad in modest green awaiting the time when, in turn, these leaves shall also yield to the remorseless hand of Time. We are reluctant to see the departure of these "Fair Maids," as we love to hear them called, but they have brought in their train other flowers so fair that in their beauty we find a consolation for the loss of those which are now withdrawing for a time from our eyes. So our requiem ends in a song of thanksgiving, and our mourning for the past is swallowed up in the joy of the present as we look delightedly upon the garden with its many charms.

There has been no such rapid rush into growth as we have seen at other times, when the bands of the winter have yielded almost instantly at the sudden coming of the genial winds and the smiles and showers of the spring, but instead a steady progress of this array of beauty. The Snowflakes, rivalling the Snowdrops in purity, accompany the earliest Glories of the Snow, the Hepaticas, the early Squills, the early Rockfoils, and, welcomed of all, the earliest Daffodil.

The Crocus, too, embroiders the ground with its charming colours. How varied are these flowers! We seek in vain for language in which to express the charming colouration of some of their blossoms. There are the Dutch Crocuses which give us deep gold, pure white, white with faint lines of palest lilac, light blue, deep purple, purple with white tips, and others with stripes and zones too varied to describe, but all full of beauty. Then there are the species with their varieties, and who can attempt to tell of their variety of beauty in a limited space? They have not had a cheery time; but, if the absence of sunshine kept them from opening, they have done their best to please us with their "foul weather dress." There is *C. biflorus*, named in some curious way the Scotch Crocus, with fawn or white attire striped beautifully with deep purple; the variety *estriatus*, deeming itself in full costume without the purple braiding the others wear. Then *C. b. pusillus* is content that its dwarfer size is its charm, and the pretty little *C. b. Pestalozzei* looks out with its white flowers from its veiling of grassy leaves, conscious that its tiny little cups will not be passed by without receiving their meed of admiration.

Then *C. Tommasinianus* (which has so long a name either to speak or to spell that we wish Kerner's name of *C. serbicus* would serve) stands in a crowded little clump, with its sapphire-lavender flowers so pleasing that we look and look again. We have

C. etruscus, too, which seems to dislike so much rain and does not stand it well, with flowers which should be lilac when open, but keep closed and are creamy in hue, with a tinge of pink, which makes them unique in colour among all in flower. There are a good many others of which one would like to speak; but if we began to tell of *C. vernus leucostigma*, or *C. v. George Maw*, or *C. v. Ira Aldridge*, there would be a call for the application of the closure, so we had better refrain.

Very welcome are the Squills (a name which, by the way, I do not like so well as *Scillas*, English although the former is supposed to be), with their pretty flowers, which add so largely to the attractions of the garden. It is strange that so many grow the Siberian Squill (*Scilla sibirica*) while there are so many who do not know its congener, *Scilla bifolia*—the Two-leaved Squill. The Siberian one is the better of the two for standing bad weather, its more drooping flowers preserving it from early injury, but it is not so effective nor so bright as some of the best of the varieties of *S. bifolia*.

We have now a considerable number of varieties of the Two-leaved Squill, and these include not only several shades of blue, but also a white, a flesh coloured, and several red forms. *Scilla bifolia* Whittalli was among the first to flower here; but the finest of the blue varieties has been the large-flowered one sent me from the Bithynian Olympus, and which was spoken of last year. It is the brightest of its colour I have, and its broader petals with the whitish line up the centre of each make it very bright and attractive. The white variety will soon be open, and two of Mr. Allen's seedlings have opened to-day. These are *S. bifolia ruberrima*, a variety with a distinct reddish tinge when it first opens, but this passes off when the flower has been open for a few days, and *S. b. Pink Beauty*. The latter is new to me, and well worthy of the name it has received. It has good, broad petals, of a pink colour. Possibly some of my readers may think it hardly of any service to speak of flowers which are not obtainable from the trade, but it is well to feel in flower-growing as in other things that there are still more worlds left to conquer. The pink *S. bifolia*, known as *S. b. rubra*, is, however, procurable from the trade, although care should be taken that the flesh-coloured variety, known as *Carnea*, is not supplied in its stead. It is pretty in its way, but not so rare or so deep in colour as *rubra*.

The only *Chionodoxas* which have as yet opened are a seedling of *C. Luciliæ*, *C. sardensis*, and the white variety of *C. Luciliæ*. This white *Glory of the Snow* is a lovely flower, looking as if it had had its birth in the snow, and had brought with it the purity of the element which gave it birth. My specimen, however, has quite a pinkish tinge when in its early stage, but before it opens this passes away, and the expanded blossom is pure white without a tinge of colour. Looking at it I cannot help thinking of a nurseryman to whom I had applied for this white *Glory of the Snow* on first hearing of its existence. He could not supply, and added that he "did not think it would be pretty, as it would be quite unnatural-looking." If he has met with it, I am convinced that he has changed his mind; not that it is a flower for brilliant garden effects, but it is one over which one can linger admiring its spotless purity and its elegant beauty.

The earliest of the Daffodils here has been *Narcissus minimus*, which is, however, not so early as I have had it before, and *N. pallidus præcox* is showing colour. One feels, however, that the bulbous plants must not quite monopolise these notes, although they are in the first rank of the early flowers; and though the Netted Iris and its varieties appeal for a few lines, they must stand aside for a time, as only a brief space is left for one or two other plants.

Flowering beautifully in a half-shady "pocket" at the base of a rockery is a fine plant of *Soldanella alpina*, the "Blue Moonwort," with several spikes of its exquisite little flowers with their charmingly fringed petals. All the winter it has had a sheet of glass overhead, for without this treatment it will not flower here, probably missing the covering of snow under which it shelters in winter. It seems almost impossible that delicate flowers such as these should appear amid the snow of the Alps; but here is what a writer in "Science Gossip" said recently:—"I know of no prettier sight than the purple bells of *Soldanella alpina* standing in the centre of the little hole which the stem has made for itself in the snow. The heat that it gives out in transpiration is enough to melt these little holes in the already half-melted snow above it, and through which the flower stalk then emerges bearing one, two, or three fringed bells, developing still out of the nutriment stored up in the last year's leathery leaves. The flowers are over in a few days, almost before the snow is gone." Fortunately they last a little longer here, and their beauty is prolonged if the sheet of glass is retained over them until the flowers begin to fade.

Those who have been unsuccessful with the Alpine *Soldanella* will do well to try this plan of covering with glass from about the

beginning of October. The pocket in which it grows is filled with sandy peat, and is kept well supplied with water in summer. Its flowers are of a purplish or violet colour, and its roundish leathery leaves look not unlike those of a hardy *Cyclamen*, although from the first look at the flowers no one would suppose that the *Soldanellas* and *Cyclamens* belonged to the same Natural Order—that of the *Primulaceæ*. The *Soldanellas* may be raised from seed, which germinates slowly, and the young plants are rather tardy in making growth. Fresh seed is reliable, and a large stock can soon be raised by saving the seed from one's own plants.

A little carpet of the white variety of the Opposite-leaved Rockfoil (*Saxifraga oppositifolia alba*), covering a part of one of the terraces of a rockery and trailing over the stones of which it is formed, would induce me to speak of these beautiful little plants



FIG. 29.—*VIOLA CALCARATA*.

were it not that the sheets before me remind me once more of the limitations necessarily imposed upon these notes. The garden is now full of rare delights, and every day sees some new addition to these treasures, which yearly become more engrossing, and baffle our efforts to describe their grace and beauty.—S. ARNOTT.

VIOLA CALCARATA.

THIS species, though familiar to botanists, is not so commonly used by horticulturists as perhaps it should be. Instead of the strong leafy tufts of some of its congeners, it increases by underground runners. The flowers are of a light blue, very suitable for bedding purposes as a cool background to more glowing colours. The cut was made from a plant introduced at Kew by Mr. Dyer, the Director of the Royal Gardens. It is a native of the Alps.

LILY OF THE VALLEY.

AN abundance of Lily of the Valley from Christmas till they come out of doors is the aim of most gardeners in places of any pretensions; but by the usual method of potting imported crowns it is not only an expensive affair, but entails a considerable amount of labour in excess of what I find necessary by the method I adopt.

We have a large border at the foot of a west wall devoted to

Lily of the Valley, from which in the season we pick some thousands of spikes. This border we are constantly renewing in this way. In December I obtain a number of boxes about 4 feet long and about 15 inches wide (any size would do, but this size suits my purpose best). These I take to the side of the bed, and with a spade cut into sizes to fit the boxes a sufficient number of solid blocks of the Lily of the Valley roots, run the spade under each piece about 4 inches beneath the surface, and transfer to the boxes in a solid mass till each box is filled, then place in a shed out of the way of frost till required to be introduced to the forcing house.

When introduced to heat each box is surfaced with moss, damping the moss twice a day to prevent the crowns drying. A temperature of close on 80° is necessary to start the crowns before the middle of January, so that we find it necessary to place our boxes on or near the hot water pipes to start them; but after that date less heat will do, and anyone keeping up a temperature by night of about 60° may bring the Lily of the Valley into flower easily. By this means we keep up a constant supply from Christmas till they come outside. Before that date I consider imported crowns are best.

Each box of Lily as the blooms are gathered is hardened and the roots divided and planted out in good soil; these as they are required, are used to fill up the bed under the wall each year after filling the boxes. By this means the bed is kept full, and we manage to have a piece of about three years' standing for the boxes, which is just the age for the purpose, as nearly every crown has a flower spike, and the crowns have become a thick mass in the bed, every square foot yielding from thirty to forty spikes, sometimes more. The foregoing practice I can recommend with every confidence, as I have successfully practised it for years.—WM. HARRIS, *Upcott, Barnstaple*.



LÆLIAS AND CŒLOGYNES AT CLEVELEY, LIVERPOOL.

PERHAPS one of the most pleasing signs when visiting a place from time to time is to be able to denote progress, and I venture to say that anyone who has been accustomed to see the splendid Lælias and Cœlogynes grown by Mr. Cromwell must admit that progress is the right and guiding principle on which he works, and it must be indeed gratifying to the owner of Cleveley, T. Sutton Timmis, Esq., to find their culture so thoroughly understood. Although the Lælias have done flowering, the note made at the time will, I trust, be read with equal interest now, as for the past two months the intermediate house has been most attractive, first by the white and coloured varieties of Lælia anceps, which numbered 189 spikes. A magnificent specimen of L. anceps var. grandiflora growing on a raft 3 feet 9 inches by 2 feet 6 inches, carrying fifty-one spikes, averaging three and four flowers each, will not readily be forgotten.

There are also many very fine light and dark forms. L. anceps Stella, alba, Sanderiana, and Schroderi are represented by good strong plants, some spikes of Stella and Sanderiana carrying four, five, and six flowers on a spike. The plants are such models of health that a brief note as to their culture may be of benefit. They are all grown on teak wood rafts, which are slung up to the roof. When commencing to grow water is applied first from the syringe, and as growth increases the watering becomes more thorough, liberal sprinklings being adopted when in full growth. Adequate ventilation during the summer months, with abundance of light, completes the treatment. A passing word of praise is due to Mr. Cromwell for the tasteful way he arranges the plants when in flower. They occupied a space 10 feet by 9, the rafts being hidden by small Maidenhair Ferns, the lighter Palms such as Cocos Weddelliana and Asparagus plumosus being gracefully used amongst the stems of flowers.

No one who has seen them will hesitate to say that the treatment accorded is the right one, the 580 flowers being grand. The space recently occupied by them is now filled with a dozen pans of Cœlogynes, 2½ feet to 3½ feet through. One plant has over 600 blooms, while the Trentham variety has 400 blooms. Some of the strongest bulbs have two spikes carrying seven flowers each, plainly showing the floriferous character of this variety. Other pans 3 feet in diameter are filled with such charming varieties as Lemoniana, maxima, and Chatsworthi, the whole going to make up a charming display, and one which I feel sure must afford

much pleasure to Mr. Timmis and the numerous visitors to Cleveley. One other Orchid I was almost omitting—viz., the beautiful Cymbidium eburneum, carrying twenty spikes, an excellent plant, and deliciously scented.—R. P. R.

NOTES ON CYPRIPEDIUMS.

THE immense number of species, varieties, and hybrids contained in this genus render it one of the most important in the whole family, and although they are not cared for by some people, and others only take a lukewarm interest in them, the majority of orchidists keep in mind their many good points, such as their free-flowering and long-lasting propensities, the ease with which they adapt themselves to cultural methods, and their great variety. These latter value them at their true worth, and can never have too many of them. Unlike some other Orchids there is no trouble in flowering Cypripediums; only grow them well they will require no resting season, no shifting about from one house to another, or any makeshift of this description.

This fact renders them doubly useful to the amateur or beginner in Orchids who can procure cheaply and grow easily some of the very best in the genus if he is prepared to give them attention. Some people like to start with newly imported plants, and if they have convenience for establishing them, and do not mind waiting a little longer for the flowers, it is very interesting to watch them flower and note the variations that exist among them, especially as there is always a chance of a good thing turning up from a number of plants that have never been seen to flower. But taking into consideration the risk of losses and the very cheap rate at which established plants may now be purchased, these latter are to be generally preferred for the class of cultivators referred to.

In giving hints on their culture it must be understood that they refer to the majority of the kinds most generally grown, as it is well known that certain species have peculiarities of their own that must be studied and catered for. These exceptions are, however, comparatively few, and possibly no other large genus of Orchids can be so collectively treated of as Cypripediums. They like a substantial yet free and open rooting medium, and a capital compost for them consists of equal parts of good fibry peat, yellow turfy loam, and chopped sphagnum. The former materials should have the greater part of the earthy particles beaten out, and the moss must be clean, freshly gathered if possible, and free from insects. To these ingredients add enough crocks and charcoal to well break up the bulk; but avoid sand in every case, for this material, though so freely recommended in some quarters even yet, is about the worst possible thing in the compost for Orchids.

There is no better time for repotting any Cypripediums that are not in flower than the present, while any now in beauty may have attention as soon as the blossoms fade. It is usually quite easy to tell how the roots are progressing by the appearance of the plant before the latter is turned out of its pot. They should not be allowed to get too much root-bound, especially the younger and more vigorous ones, but as soon as the pots are well filled with roots give a shift into a larger size. In such cases the plants hardly feel the removal, as the old compost is not much disturbed by picking out any sour or decayed portions, and cutting away what few dead roots are found. Drain the pots thoroughly and spread the roots out as much as possible, working the compost down well about them without bruising them or snapping off the tender points. Press it fairly firm with the dibbler, but not so close as to exclude the air, or to make it difficult for the water to pass away quickly, and finish the surface so that it rises very slightly to the base of the plants, but the edges keep just below the rim of the pot.

Plants that are in a bad state at the roots, either through bad drainage, overwatering, or a close and heavy compost, are rather more difficult to deal with, as it is imperative that every portion of the old and decayed compost is taken from the roots. In the worst cases the latter must be washed with tepid water, left to dry on the stage, and the dead roots cut clean out. If any are left alive these must be carefully preserved, as having no pseudo-bulbs to sustain them the plants are fully dependent upon these chance bits until new ones are emitted. Use more moss and crocks and less peat and loam for such plants, and give also a thinner layer of compost.

These unhealthy specimens require very careful watering at the roots, and just sufficient should be given to prevent the compost getting quite dry at any time; while on the other hand it must not be kept really moist until the new roots commence to push from the base of the growths. Healthy plants on the contrary delight in copious supplies, even just after repotting, for the new compost admits air much more freely than the old, and in consequence dries up more quickly. It must be kept moist, or the new roots cannot get hold of it, and if needful they must be

watered daily. As mentioned above they must be watered all the year round, for they are usually in full growth during winter at a time when many other Orchids are quiet, and many of them have to bear the additional strain of flowering.

The foliage of many kinds is apt to be attacked by red spider, scale, and other insects, especially if not properly treated. These must be removed by sponging, but prevention is better, and this is found in good culture. A nicely moist atmosphere and a shady position suits them best, and those with variegated foliage more especially dislike sprinkling. Most of the exotic kinds are best grown in the East Indian house, though they will thrive with the Cattleyas if the atmospheric conditions are right, and a few species are best in the cool house. I will refer next week to some of the better known kinds now in flower, giving the temperatures best suited to them.—H. R. R.

CULTURE OF CALANTHES.

NUMEROUS failures appear to have occurred with the *Calanthes* in past seasons. I do not propose to explain the cause of those, neither could I do so if I attempted; but I will give a few particulars of the system by which we have always grown these plants successfully. As soon as all the flowers are cut and we can detect signs of the pseudo-bulbs starting to grow again we turn them out of the pots, separating the old from the new pseudo-bulbs, and unless we want to increase the stock we cast the old ones away; the new we clear of all that remains of the old leaves, and cut the roots off to within an inch of the base.

We give each pseudo-bulb a good sponging with clean soft water, this saving much work later on, as we never have to clean them again; but we fumigate lightly if a green fly makes its appearance. We then take some boxes about 6 inches deep, and place in them about 2 inches of good leaf mould run through a half-inch sieve; on this the base of the pseudo-bulbs rest, the tops leaning against the end of the box, a piece of lath being tacked across the top of the box for the next row to lean against, and so on until the box is full, keeping them far enough apart so that it can be seen if any insects attack the young growth. For plants of *Calanthe vestita* shallower boxes or pans suffice without any laths. In about a month roots an inch long bristle from the pseudo-bulbs, and they are then ready for potting.

The compost we use is one-half good fibrous loam with the finer particles sifted out, one-quarter leaf mould, and one-quarter cow manure, with a free addition of charcoal and potsherds broken small and a little silver sand. The cow manure is baked on a flue to destroy all animal life, and then broken in pieces about the size of cob nuts. Both pots and materials used for drainage are washed perfectly clean, the pots are drained well with rough crocks and charcoal, finishing with smaller particles. The pots are half filled with drainage, and this is covered with moss for the soil and roots to rest on. Each pseudo-bulb of *C. Veitchi* is secured to a short stake, *C. vestita* being shorter not requiring stakes.

Great care is taken in potting not to break any of the young roots, and the soil is sufficiently moist not to require any water for some time. We use pots varying in size from 6 to 10-inch, putting nine or ten in the 10-inch and four or five in the 6-inch, according to the size of the pseudo-bulbs. We place them in a temperature of 65° to 70° at night, with a rise of 10° or 15° by day, on a stage about 18 inches from the glass, taking care that the foliage does not get crowded as it develops. In very hot and bright weather a little limewash is applied to the glass, this being the only shading afforded. We close the house early in the afternoon with plenty of moisture, the temperature sometimes rising to 120° afterwards. When the pots are full of roots liquid manure is given at every alternate watering, using that obtained from the stables generally, and occasionally a little guano water.

When the flower spikes are about a foot high we gradually reduce the supply of water, so that by the time the flowers expand the soil is nearly or quite dry. About the time the spikes are 6 inches long the leaves generally commence withering, and instead of trying to keep them fresh we cut off all the decaying portions when cleaning the house, and by the time the flowers open the leaves are all gone, or nearly so. When about half the flowers on a spike are open we shift the plants into a cool dry house, where they generally remain attractive until starting time comes round again.

If we wish to increase our stock of *Calanthes* we save the old pseudo-bulbs, and after washing them well lay those of *C. Veitchi* intact flat in leaf mould. If we wish to increase them very quickly we do not hesitate to break off the tops from the new pseudo-bulbs and lay them down in the same manner, and growths from the latter will generally throw up a fair spike of bloom. *C. vestita* we prefer to split in half from top to bottom, and after being allowed to dry a little powdered charcoal and sulphur are mixed and rubbed

on the cut side. When these have started growth and made a few roots we put them in pairs in the same kind of compost as we use for the others, and accord the same treatment.—L.

CYPRIPEDIUM INSIGNE.

THIS popular Lady's Slipper is one of the best Orchids of the present season. Very floriferous, it is seen in a great number of varieties of a more or less bright yellow colour, with the dorsal sepal marked with brighter or fainter black or maroon spots, and more or less white on the upper half. The foliage is always bright green and quite attractive. This species is the parent of innumerable hybrids and varieties, which all bear a resemblance to the type. Some are rare and costly, but, perhaps, of no higher ornamental value than the species itself, which is now as cheap as a good Begonia or Cyclamen. This Orchid can be grown by anybody in a warm apartment or greenhouse. It thrives well in a mixture of peat and sphagnum moss in well-drained pots. Occasional watering with liquid manure is very beneficial. Light sprayings of the foliage in summer and a pure and warm atmosphere are essential to success. In December or January the flowers expand and keep in perfect condition for months.—N. J. R. (in "Garden and Forest.")

AN EARLY SPRING BORDER IN THE SOUTH.

I SUPPOSE that the advent of spring is more pleasurable to the young than to the old; the former, with all the possibilities of life before them and as yet untouched by the sharp shafts of disappointment, rejoice in the opening out of all those enchantments which spring brings with it; they think little that the autumn and the winter are sure to intervene, and of which they do not care to take account. The old, on the other hand, feel that the autumn and winter are fast approaching, and so a certain amount of sadness must accompany the brightest spring, and yet in the garden both young and old find both pleasure and enjoyment.

The present season is one that has surprised many of us; some things are early and others not so. The catkins of the Hazel are forward, and so are, indeed, the female blossoms; while, on the other hand, there have never been so few Primroses out in our lanes and woods at this time of the year. This I attribute to the long drought of the early part of last summer. In our gardens many of the spring bulbs are unquestionably early, and already afford us much enjoyment.

Along the drive up to my house there is a narrow border, and as it is backed by a small plantation consisting of somewhat tall trees it was not possible that plants should thrive in it; so many years ago I gave up the attempt, more especially as the border, facing about south, is as hot as it well could be, and I consequently determined on making it into a rough sort of rockery, and this is now full of flower. Long before the Snowdrops came out the flowers of hardy Cyclamen showed themselves. I had tried these in various parts of my garden, but somehow could not get them to succeed; but reading once in the Journal that they rather liked the shade of trees I made a bold venture, took up the bulbs from various parts of the garden, and planted them on this border. They were, of course, raised somewhat above the level amongst the stones which formed the rockery, and here they have succeeded most admirably. The varieties were, I believe, *vernum*, *Atkinsi*, and *Coum*; but they have seeded and got so intermixed that I cannot distinguish them now. The border being so hot has, I suppose, tended to the ripening of the seed, and the consequence has been that not only have seedlings sprung up in all directions in the border itself, but they appear also in the little plantation behind, from whence I have lifted a number and given them to friends who admired them in the rockery, and I daresay have lost them. Those on the rockery are never interfered with. The original bulbs have largely increased in size, and they are surrounded with a comely progeny of youngsters. I sometimes read complaints of persons not being able to grow these charming spring bulbs, and hence, perhaps, these few notes may be of service to them.

Associated with these is a good bed of Winter Aconites, with its charming bright yellow flowers; but, alas! it does not continue in bloom very long, although, perhaps, longer this season than many others, as until lately the weather has been dull; it is one of those plants that persons have to be careful about, if their space be limited, because it increases and spreads very rapidly, and as its foliage is large in proportion to the flower it very soon absorbs a large portion of the ground. Along with these are associated some clumps of Snowdrops. I do not care to grow these in collections, and have therefore only a few sorts beside the old and common *nivalis*, which I think, notwithstanding the newer introductions, is likely to hold its place in general favour. *Elwesi* is doubtless a very fine form, and a larger form of it that has come up amongst

my Smyrna bulbs is especially attractive; but I do not know whether others have found that it does not stay at home like the common kind, and it is therefore very difficult to get a good clump of it. I have tried it here and in other parts of my garden, but wherever I have placed it the same holds good, and I can therefore only think that it is not a local freak, but the habit of the bulb. Of course, there are Crocuses of various species; they have come out very early this year, and not only this rockery, but other parts of the garden, are gay with their many-coloured bright blossoms. Amongst the species ochroleuca, Imperati, Sieberi, and Aucheri are especially brilliant, while the variety of Scotch and Dutch Crocuses, as they are called, make everything look gay, and as they have not experienced any severe weather they are continuing a long time in flower.

Among the bulbs on this rockery of which I have been writing is a considerable batch of that beautiful early flowering Anemone, *A. blanda*, which I had through the kindness of Mr. Whittall of Smyrna; it is evidently the same which we receive from other quarters, but I think it is somewhat earlier than those from more northern climes, and varies considerably in colour, most of them being somewhat darker than the ordinary strains. *Omphalodes verna* is another plant which seems to thrive luxuriantly in this position; although I dislike putting English names to plants, yet the term Creeping Forget-me-not is not far from the mark; it does creep along the stones, and the bright blue of its flowers is not unlike that of the Forget-me-not, though much deeper; it does not form a large truss, or it would be still more attractive, but its abundant foliage and free blooming make it a good plant for the rockery at this time of the year.

There is another flower which blooms at this early period which I would mention, although I have not got it in sufficient quantities to make any display, and this is *Iris histrio*, the earliest of this widely extended and diversified family. Most gardeners are acquainted with that charming and sweet-scented flower, *Iris reticulata*, for whose blooming we are now looking out; and *Iris histrio* belongs to the same section.

It may be asked, Why do you not mention Hepaticas? But just for this simple reason that I have never been able to get them to succeed in this warm position. I have them doing fairly well in a cooler place, but not as I recollect them in my earlier days, where they were little cared for, and seemed to like neglect. *H. angulosa* succeeds very well with me, but then it is entirely different in habit and bloom from the ordinary *H. triloba*. Of course we shall now be expecting in various parts of the garden *Chionodoxas*, *Anemones*, *Narcissi*, and other spring flowering bulbs and plants, but I do not touch upon these, as my object has been rather to show what can be had in a small garden before the ordinary blooming time for spring plants has arrived.—D., Deal.

ANTHURIUM NOTES.

A. SCHERZERIANUM.

FLOWERING, as this plant does, during the declining months of the winter and in the early spring, it is surprising that it is not represented in gardens for cuttings and decorative purposes by the hundred instead of by solitary specimens. Few plants that we grow for decorative or cutting purposes last in good presentable condition over a longer period than this. The scarlet spathes are always striking, and can be associated with the choicest of flowers. By growing a large number of plants the flowering period can be extended over a long space of time. The plant lends itself well to either extra forcing or retarding, according to the will of the cultivator. On many occasions I have urged the claims of this plant for more general cultivation, and make no apology for doing so again.

If we regard the plant for grouping purposes, for use in rooms or other positions, by artificial or daylight, no other plant in our gardens can well surpass it; under artificial light its brilliant spathes are striking in the extreme, and a few plants make a more distinctive feature amongst Ferns and foliage. What other plant have we at this season of the year that contrasts so admirably when associated with *Cattleyas* in bloom, and yet harmonises with them so well? Even when cut it is a gem amongst these flowers when its long slender stems are allowed to rise above them arranged in suitable greenery, without the slightest trace of crowding.

Masdevallias are popular amongst Orchid growers, and their bright colours make a pleasing display, but for general use they are not to be compared to this old inhabitant of our stoves. We do not care to draw comparisons, and will only point out one more use to which the plant is seldom put, and that is the adornment of the dining table. Plants in 6-inch pots bearing three or four of their bright spathes look well in silver vases down the centre of the table, and even if the plants employed have not the required number of blooms on them cut spathes of other plants may be added. For association with these nothing is better than Tulip Vermilion Brilliant, about five in each glass with their own foliage, down the sides of the table and between the silver or other vases employed.

This *Anthurium*, practically speaking, is easy to grow, and is not so particular about soil as at one time was thought to be the case. It can be grown to perfection in that moss which forms a close cake on the surface in our woods, in fact nothing is better. It resents any soil that goes closely together and becomes sour, for in such its thick fleshy roots soon perish. The pots in which it is grown should be well drained. The main body of the material may consist of fibrous peat and loam, amongst which broken crocks or gravel have been freely incorporated. The top may be surfaced with moss, as is the custom in the potting of Orchids. The bulk of the roots that form from the stem will take possession of the surface moss.

When the plants are repotted, which may be done annually or at intervals of two years, the whole of the old soil should be washed away from their roots and replaced with fresh. While growing, the plant likes plenty of heat and moisture as well as shade from the sun. Directly after repotting care in watering is needed until the roots are thoroughly active, when liberal supplies are beneficial. After growth has been made the plants need a thorough rest, which is best given by removing them to an intermediate temperature. They are safe amongst *Cattleyas* at rest. The drier conditions of the atmosphere suit them well. They also require to be kept on the dry side at the roots. If given too much water during the resting period the roots are liable to decay. Heat and moisture is again needed after the season of rest to induce them to grow and flower, few plants respond to its application much quicker.

A. ANDREANUM.

Although not so useful as *A. Scherzerianum*, the above is a plant which deserves to be grown on a larger scale than is at present the case, and where room can be given not represented by solitary specimens. A number of large plants will yield spathes in quantity during the winter and spring, and these are invaluable for cutting purposes. In large vases in halls and other positions they can be most effectively employed, where small flowers, however choice, would be lost. I know of no flower for large vases where *Callas* and their foliage can be used that is so useful. They last a long time when cut, and are so striking in colour that they contrast admirably with the old favourite *Calla*.

All who want abundance of flowers, choice and distinct, would do well to increase the stock of this *Anthurium*. Some of the varieties after this type are too washy, and scarcely worth a place for the purpose in view, therefore only a good strain should be grown. Good varieties should always be increased, as seedlings are not very reliable, and often prove disappointing. There are two or three distinct forms of *Andreanum*, one a good flower, dwarf and distinct, while another runs away and forms a stem. The latter we prefer for stock purposes, the other flowers equally well, but is a good deal slower in growth, therefore it takes much longer in raising a stock.

The one that forms a stem should be grown on as rapidly as possible, until it is at least a yard high, then cut close over near the moss of the pot in which it has been growing, the old stock will make three or four shoots, which may be allowed to grow the first season without being disturbed. The shoots will commence to flower again in autumn. The following spring they can be taken off and rooted, the old stem again breaking into growth. This method we prefer. After taking off the top we cut the remaining portion of the stem into lengths of two joints, with a little root attached to each portion if possible. The top portion of the stem may be cut into pieces of two joints and inserted into 3-inch pots in sand and sphagnum moss. These, if placed in the propagating frame where brick bottom heat can be given, will soon commence to grow and root. These if potted on make splendid plants by the end of the season in 6-inch pots.

Plants raised from stems in this manner and grown after they are rooted in the material advised for *A. Scherzerianum* are invaluable the first season for furnishing the side stages of the stove. These, in addition for cutting and the embellishment of the stove, are useful for any choice group or mixing with *Cattleyas* in bloom.—WM. BARDNEY.

DOES GRAPE GROWING PAY?

I HAVE for many years been a reader of the Journal, and anything anent Grape growing which appears in its pages is especially interesting. On this score I do not think anyone can complain, for the current numbers have been exceedingly rich in Grape growing lore. There are Mr. W. Taylor's articles on "Modern Grape Growing," which I hope to see published in book form when they are finished; an excellent article on "Renovating Old Vines," by Mr. W. West Chapman (page 90); and more recently (page 122) a paper on "Express Grape Growing," by Mr. C. Colebrooke.

When reading this latter article I paused and asked myself, "Does Grape Growing Pay?" Mr. Colebrooke says a profit can be made from Grapes at 6d. to 8d. per pound, and that three bunches to a spur, sixty-six bunches to a Vine, is the crop he takes? Now comes the question, How long will the Vines stand this? I suppose high feeding has something to do with it, but this adds to the expense of growing. I recently asked the price of Grapes at two different fruiterers' shops in a provincial town, and the price quoted in each case was 3s. per pound; and I remember some years ago giving 4s. 6l. per pound for Muscat of Alexandria rather late in the season, after our own were gone. From these facts it seems to me that the grower ought to get more for his Grapes than Mr. Colebrooke does. What do others say?—A GARDENER.



EVENTS OF THE WEEK.—On Monday evening next the United Horticultural Provident and Benefit Society will hold its annual general meeting at the Caledonian Hotel, Adelphi, at 7.30 o'clock. On Tuesday the Committees of the Royal Horticultural Society will meet at the Drill Hall, Westminster.

WEATHER IN LONDON.—Various changes have marked the conditions of the weather in the Metropolis during the past week. Cold easterly winds prevailed during the early part, followed by high wind accompanied by storms of sleet and rain. At the time of going to press the atmosphere is dull, with prospects of showers.

WEATHER IN THE NORTH.—On the morning of the 26th ult. snow to the depth of fully an inch covered the ground. Much greater falls were reported in other districts. During the following night 11° frost were registered; followed by high wind and rain. The 28th was fine, especially in the evening. February closed and March opened with extremely disagreeable weather, boisterous and wet. This continued till Tuesday morning, when the hills all round were white, and a slight coating of snow lay on the lower grounds, with sleety showers from the west.—B. D., *S. Perthshire*.

ROYAL HORTICULTURAL SOCIETY.—The next Fruit and Floral Meeting of the Royal Horticultural Society will be held in the Drill Hall, James Street, Westminster, on Tuesday, March 10th, 1 to 4 P.M. At three o'clock a lecture will be given by Mr. James Barkham on "Melons."

HORTICULTURAL CLUB.—The next dinner and conversazione will take place on Tuesday, March 10th, when Professor Thisselton Dyer, Director of the Royal Gardens, Kew, will be the guest of the evening, and Sir J. D. T. Llewelyn, Bart., M.P., will take the chair. A paper will be read by Mr. George Paul on "The Resurrection of the Older Sorts of Roses." It is expected that there will be a good attendance of members.

MYROBALAN PLUM.—What is the experience of planters generally regarding the behaviour of this plant (*Prunus cerasifera*) for hedge making? Personally I have no experience with it, but have watched the progress of a hedge of it in the neighbourhood for several years, but I must confess I am disappointed with the result. The growth seems slow and the hedge thin. The soil in which it is growing may be the main cause. An opinion expressed in the Journal will be appreciated by—E. M.

THE SOUTHAMPTON HORTICULTURAL SOCIETY.—This distinguished provincial Society, which enjoys the special affix of "Royal," also just now luxuriates in the handsome deficit of £180. That would be to very many similar societies regarded as a very good annual income. The Society has been rather ambitious, some of its members seem to think too much so, in not only becoming something of a company so as to be able to lease land, but also in catering so very largely not only at its shows, but at other times for mere purposes of amusement. As to the question whether a horticultural Society is within its duty in catering so considerably for athletic sports, &c., is just one of the things on which we prefer to pass no judgment. It is entirely a matter for the members. Not the least of the Society's difficulties, however, seems to be that the lease of the ground, upon which so much money has been expended to render it suitable for shows and athletic sports, soon expires, and after the present season the Society will have no place to hold its summer shows in, unless it can come to terms with some local landowner or other person having land in occupation. The position is one in the interest of horticulture much to be deplored, but so far as sports are concerned that hardly creates worry, seeing that these things seem just now, at any rate, to need no extraneous help. We hope the Society may this year have such better fortune that it may be recouped its present deficit, also that eventually, if sports suffer, horticulture may gain. Every locality evidently cannot be a Shrewsbury or a York, but no doubt at these places the local societies enjoy advantages which the Southampton Society cannot in any way claim.—A.

MR. CHAMBERLAIN'S GARDEN.—The next issue of the *Journal of Horticulture* will contain, by special permission, a full illustrated report of the gardens of the Right Honourable Joseph Chamberlain at Highbury, near Birmingham. Those of our readers who may desire extra copies should order them early, as we already know the demand will be great.

ANALYSIS OF SOILS.—The Royal Horticultural Society would, I think, confer a benefit on the Fellows of the Society by securing the services of a competent analyst on the same terms as the Royal Agricultural Society. The importance of analysis is so generally recognised that an analyst might be sure that a reduction of fees to the Fellows of the Royal Horticultural Society would be to his advantage and would not result in a loss.—T. FRANCIS RIVERS.

THE SHREWSBURY SHOW.—As we are preparing for press the schedule of prizes offered for competition on the occasion of this great floral fête comes to hand. The show opens on August 19th, and the generous provision made in all sections will no doubt, as heretofore, insure spirited competition. Some new classes will excite much interest, as the several items stipulated for have to be judged by points, and these placed on the exhibits which obtain the prizes. We shall refer to the schedule again.

RAIN AT LAST.—Although there has been considerable rainfall in northern localities, yet in the London and southern areas the comparative drought up to the end of February was remarkable. It was not until March 1st that rain could be said to have fallen, and even then but of the mildest form. Still, it was warm and very refreshing. That we should have gone all through such midwinter months as January and February with so little of rain and also so little of frost constitutes a weather record and phenomenon. But the surface soil has not appreciably dried, because we have had little of wind or of sunshine. Rarely at the end of February has soil been in more acceptable condition for cropping, and seeds, though early, have been got in largely. The mild, soft shower of Sunday last came at a most desirable time, softening the well-aërated surface and assisting seed germination.

RED SPIDER ON VINES AND CUCUMBERS.—Red spider is easily stopped on Vines when first perceived by sponging the under side of the leaves with flowers of sulphur, say a 2½-inch flower potful, stirred into 1½ gallon of water, with about ½ oz. of soft soap added. We invariably sulphur the pipes and make them hot at the same time, but have little faith in the practice, though it may, perhaps, do a small measure of good. When the fruit is cleared from the Vines we syringe the whole house thoroughly with sulphur and soapy water. This is left on for four bright days, and then syringed off with clear water. Every trace of spider will disappear. We treat Cucumbers in the same way at any time the insects appear. If dull weather follow the operation the spider will not be killed until there is bright sunshine, so that in some cases it may be necessary to leave the sulphur on longer than four days. By not syringing for three or four days we have not found Cucumbers to suffer in the least. The house can be well damped. This is a simple, easy method of extirpating a destructive pest.—W. BARDNEY.

LEUCOIUM CARPATHICUM.—I am greatly indebted to Mr. W. E. Gumbleton for writing me regarding my note on this plant, and for being at the trouble of referring to the "Botanical Magazine." Mr. Gumbleton says that the plate 1993, which is referred to by Mr. Baker as representing *L. carpathicum* (*Herb.*), "purports to represent *L. vernum*, var. *biflorum*, and has two flowers on each stem with gold spots." From an article on the *Leucoiums*, by Mr. W. Brockbank, which appeared in the "Gardener's Chronicle" of March 15th, 1884, I quote the following as bearing on the point at issue:—"L. *Carpathicum*.—This is also figured in the "Botanical Magazine, pl. 1993 ***. The flowers are larger than those of *vernum*, and the spots a rich golden yellow. The scapes are not always two-flowered, and sometimes you find single and twin-flowered in the same clump, but generally it is two-flowered." "The plant from which Curtis' plate was taken had been collected on the Carpathian Mountains. It is called by Curtis *L. vernum*, β ., Carpathian Spring Snowflake." I have a yellow-spotted Spring Snowflake which never produces two flowers on a stem, and this seems to be a constant feature in the clump whence my plants originally came, and which has been in the same garden for many years. I submit still that *L. carpathicum* has, as stated by Mr. Baker, yellow spots, and that the plant lately certificated is the variety *Vagneri* (*Stapf.*) referred to by Mr. Baker. I have not access, however, to Dean Herbert's "*Amaryllidæ*," p. 331, where the plant is also referred to.—S. ARNOTT.

— DEATH OF MR. W. A. GREEN.—We deeply regret to announce the death of Mr. W. A. Green, father of the indefatigable Secretary of the Wolverhampton Floral Fêtes, which occurred in the early morning of the 1st inst.

— GARDENING APPOINTMENT.—Mr. W. H. Whittaker, for nearly five years foreman to Col. Stracy Clitherow Boston House, Brentford, has been engaged as head gardener to Sir Hickman B. Bacon Bart., Thonock, Gainsborough.

— FEBRUARY WEATHER AT DRIFFIELD.—Mean temperature at 9 A.M. (corrected) 37.89°. Wet bulb, 36.87°. Mean maximum, 43.23°; mean minimum, 33.25°. Highest, 53° on the 8th; lowest, 24.5° on the 3rd. Mean of maxima and minima, 38.24°. Mean radiation temperature on grass, 27.84°; lowest, 18.5° on the 26th and 27th. Rainfall, 0.81 inch. Number of rainy days, nine. Greatest amount on one day, 0.42 inch on the 20th.—W. E. LOVEL, *Observer, York Road, Driffield*.

— WEATHER IN SOUTH WALES.—The total rainfall here for the past month was 1.33 inch. Number of days on which rain fell, ten; greatest depth 0.42, on the 8th; number of hours of sunshine, sixty-seven; sunless days, twelve. The wind was in the S.E. and E. on fourteen days, and in the N.W. and W. on twelve days; there was frost on thirteen days, but mostly very slight, with the exception of the 24th to the 27th, inclusive.—W. MABBOTT, *Gwerllwyn House, Dowlais*.

— FEBRUARY WEATHER AT HODSOCK PRIORY, WORKSOP, NOTTS.—Mean temperature, 39.6°. Maximum in the screen, 55.9° on the 8th; minimum in the screen, 18.3° on the 26th. Minimum on the grass, 10.2° on the 26th. Frosts in the shade, twelve; on the grass, twenty. Sunshine, thirty-nine hours, or 14 per cent. of the possible duration. Rainfall, 0.65 inch. Rain fell on seven days. Dry, dull, and mild, but with some frosts in last week. The mean temperature of February, 1895, was 28.1°.—J. MALLENDER.

— SUSSEX WEATHER.—The total rainfall at Abbot's Leigh, Haywards Heath, Sussex, for February was 0.25 inch, being 2.39 inches below the average; the heaviest fall was 0.05 inch on the 20th. Rain fell on seven days. This is the driest February in a sixteen-years record, except 1891, when the amount was only 0.04 inch. The maximum temperature was 54° on the 29th; the minimum 18° on the 26th. Mean maximum, 45.15°; mean minimum, 34.15°. Mean temperature 39.65°—2.92° above the average. March 1st, dull and damp.—R. I.

— INSECTS INFESTING THE RED CURRANT.—Fruit growers in the East often envy those of the North-western Pacific States. Nearly every kind of our garden fruits thrive admirably, and for a while it seemed as if they required no care from the hand of the gardener or fruit grower. It is, however, only a question of time when the enemy will steal into every garden, and this is getting to be the experience of the North-western fruit grower. The ordinary Red Currant is at home there. In no part of the country are the Currant bushes so healthy or the product so large as in Washington State; but the cotton scale has found it out. This is known to entomologists as *Pulvinaria ribis*. According to "Meehan's Monthly" it is considered as one of the worst insect pests that the Currant grower of that region has to contend with. Kerosene emulsion has to be applied in order to dislodge them.

— THE LATE MR. R. BLOXAM.—There has just passed away from amongst us one who had been for many years a most ardent lover of the queen of flowers; one who, like a shock of corn in full season in a ripe old age, in passing away has left a blank which will not easily be filled. No one would have imagined when walking in his beautiful garden that they were within eight miles of Charing Cross. One in writing of it has called it "an ideal garden," and so in truth it was, with its beautiful trees and its abundance of Roses. No one who ever spent a day at Eltham Court is likely to forget it, while the ruins of the old Tudor banqueting hall gave it an air of antiquarian interest, which added greatly to its charms; and how its owner loved it, especially the Roses? Herein he might be seen long after he had passed his fourscore years, with keen eye and steady hand, budding his dwarf plants; and then when the time for the local show came on, of which he had been the originator, with what keen interest he entered into it, and how kind was his reception of any of those interested in the show. As a member of the Committee of the National Rose Society he was often most helpful; his manners were quiet and unobtrusive, but his words, the outcome of a calm and judicial mind, were ever weighty and of much interest. Here and in many other places he will be sadly missed, and he has left behind no worthier representative of the cause he had so much at heart as that of the queen of flowers.—D., *Deal*.

— POTATO SCAB.—An application of 300 lbs. of sulphur to the acre has been tried with great success in the New Jersey Experiment Station. This is a safer remedy by far than the application of corrosive sublimate.

— URIAH PIKE CARNATION.—A correspondent recently inquired whether this somewhat famous Carnation was a winter bloomer. I saw recently one of the largest collections of the variety, numbering many hundreds of plants, and large ones too, in the kingdom, and very few indeed were carrying flowers. I was informed that whilst flowering pretty freely during the previous winter, the variety was rather shy this winter, and the change was attributed to some diverse conditions of weather. Uriah Pike has about it much of the tree character, but may not be regarded as a winter bloomer in the same way that many tree varieties are.—A. D.

— A WORTHY CASE FOR THE ORPHAN FUND.—The "Southampton Times" reports the sad death of a nursery employé. The deceased, Thomas Hatch, was a Rose and Carnation grower in the service of Messrs. Ratsch and Co., nurserymen, Christchurch, Hants. About one o'clock on the afternoon of the 24th ult. the deceased was engaged at his work when he suddenly fell forward dead. He had been formerly employed in one of the Messrs. Rochford's nurseries. No inquest was held. The unfortunate man, who was thirty-six years of age, leaves behind a widow and four young children. We can but hope that members of the market trade will see next year that one of Hatch's orphans is nominated for the benefits of the Gardeners' Orphan Fund.

— SNAPDRAGONS AS WINTER FLOWERS.—An American contemporary says that in the neighbourhood of Boston a white-flowered *Antirrhinum* has been grown for some years in the greenhouses for winter flowers, and it has become quite popular. Other people throughout the country have now taken hold of it, and it is being grown considerably both in private and commercial establishments. Amateurs as a rule grow it in pots, as they do Carnations or Cinerarias, but the florists plant it out on benches in the same way as they do Carnations. New plants are raised from cuttings every year. By pinching back the flower tips we can retard the blooming time as late as is wished, also by not raising the young plants so early in the season we can have them come into bloom, without much pinching, at the required season. Altogether this white Snapdragon is a pretty and useful and easily grown addition to our winter flowers, but we question its popularity being long-lived.

— THE ELECTRICAL DRYING OF FRUIT.—There would appear to be a good opening for the use of electric heating in connection with the fruit trade. It is well known that fresh-gathered fruit must be dried before being packed. This process, although an apparently simple one, necessitates great care, and the temperature must be well regulated, otherwise there is danger of the fruit being damaged. Large drying rooms are in use in some cases, heated by means of steam, and although this system may be cheap to work on a large scale, it is not always so satisfactory on a small one. In such situations electric heating could be used with advantage. The perfect regulation allows of any temperature being obtained, and, what is of great consequence in such an installation, practically no attention would be required. The electrical plant, too, could be used for lighting, and a few motors to aid the packing could easily be laid down.—("The Electrician.")

— ESPARTO GRASS.—Although best known as material for the manufacture of good paper this Grass can be put to a number of other uses. Hats, baskets, mats, camel and donkey panniers, cordage, and a few coarse textiles are made from it by the natives of Spain and Northern Africa, especially around Tunis and Tripoli, where the Esparto (*Stipa tenacissima*) grows abundantly in a wild state. The Esparto is one of those plants that do not take kindly to cultivation; consequently, many of the larger firms who manufacture the better kinds of paper have purchased or rent large tracts of land in Spain and elsewhere, where Esparto is almost the only Grass that grows. These tracts are systematically worked, so that there is no destruction of roots, and the plants recover in successional areas. Even the old Romans knew the value of the fibrous Esparto, and made coarse ropes of it, and to-day many of the Mediterranean fishermen prefer Esparto to hemp cordage. One thing however, says a contemporary, prevents a wider use of this subject for cordage, and that is its want of elasticity. In the No. 2 Museum at Kew is a series of articles made from this now famous Grass, and also samples of Esparto in the various stages it has to pass during its manufacture into paper. A large amount of Esparto is annually exported from Tunis and Tripoli to France and to England; the latter country however, is by far the largest customer, both of the fibre suitable for paper and that used in textile.

— **ANCIENT TIMBER.**—Probably the oldest timber in the world which has been subjected to the use of man is found in the ancient temples of Egypt in connection with the stonework, which is known to be at least 4000 years old. This, the only wood used in the construction of the temple, is in the form of ties, holding the end of one stone to another at its upper surface.

— **DR HOGG PEACH.**—As seen in one of Mr. Walker's houses some very fine trees of this beautiful Peach are florally a remarkable sight. Apart from its merit as a fruiting tree the variety should be widely grown as a flowering plant or tree. At Ham the bloom is not only fine and richly coloured, but is so profuse as to be fully three times the bulk any other variety carries. As a floral garland nothing could well be more beautiful. I should like to have this Peach planted in high houses, as standards after the Bexley Heath method, or as trained trees running under the glass, and forming a perfect bower of beautiful pink flowers in a long span house. When trees are naturalised to early blooming, what a moderate heat suffices for the purpose!—D.

— **CROPPING PEACH TREES.**—Mr. J. Hale says that a Peach tree three or four years old should not be allowed to bear more than 250 Peaches, one four or five years old not more than 300, and a full-grown tree not more than 500. This means that the Peaches should be at least 6 inches apart. Five hundred Peaches make six to eight baskets of fancy fruit. Three thousand Peaches to a tree would sell for less money and ruin the tree. An American contemporary says that Mr. Hale puts step-ladders under the trees and begins to thin when the Peaches are about three-quarters of an inch in diameter, and every fruit that is diseased or stung by the curculio is carried away to be burned. The rest of the thinnings are thrown on the ground and left there.

— **FRINGED CYCLAMEN.**—So wedded are we to the smooth edge of the petals of Cyclamen flowers, that any departure from that smooth outline may be in some quarters regarded as retrogressive. But if there be special beauty in fringes to Chinese Primrose flowers, why not to those of Cyclamen? Looking over the remains of the large collection grown for market by Mr. J. Walker at Ham, I could but notice a really good broad petalled pure white that had distinctly fringed edges. Mr. Walker, jun., mentioned that he saved seed from a flower similarly edged last year, and some of its progeny were now amongst the huge batch of 6000 seedlings, all in 60-sized pots. The plant noticed seemed to me as capable of creating a very distinct and beautiful strain, as the laciniation was clearly defined. In the market it would have been unnoticed, but few such departures from normal types escape the sharp eyes of a florist.—A. D.

— **EXPERIMENTS WITH MANURES.**—A report of the experiments on the use of manures for pastures, Potatoes, and root crops, carried out in Berkshire, Hampshire, and Oxfordshire last year in connection with the agricultural department of University Extension College, Reading, has been prepared by Mr. D. A. Gilchrist and Mr. P. H. Foulkes. So far phosphatic manures have given the best results in improving the quality of pastures, basic slag being apparently more effective and lasting than superphosphate. In connection with experiments on Potato disease, it is stated that exceptionally good results were obtained at Fareham and at Lymington by spraying the crop at suitable times with a mixture of sulphate of copper and lime. Chemical manures (containing nitrogen, phosphates, and potash) produced an increase of the Potato crop at a much less cost than farmyard manure. In experiments at Headington, Oxford, it was noticed that Turnips were much injured by finger-and-toe, and that farmyard manure had considerably increased the attack. On the other hand, crops on adjoining land were almost free from the disease. The soil in which the roots suffered yielded on analysis only 0.45 per cent. of lime, whilst that in which they were almost free from attack contained as much as 5.49 per cent. of lime. These facts support the contention of Dr. Voelcker and others, that absence of lime encourages finger-and-toe. The field experiments are to be continued this year, and a fourth county (Dorset) is now included in the scheme.

FRUIT CULTURE IN THE HIMALAYAS.

THE "Board of Trade Journal" quotes from a Bengal newspaper an interesting account of the present condition and prospects of fruit culture in the Himalayas. From this it appears that during the past twenty-five years or so Government has established and maintained numerous orchards and nurseries, carried out experiments, distributed free among cultivators plants, seeds, seedlings, and grafts of the choicer varieties of fruits suitable to the climate, in which and other directions

considerable expenditure must have been incurred. The main object, it is stated, is not so much to produce high-class European fruit for those who can afford to pay the exorbitant prices which it commands, as to extend the cultivation of such fruit as can bear transport to the big hill stations and to the plains, and thus to increase the production of an important food supply. Looking to the vast quantities in which many kinds of fresh and dried fruits are annually imported into India from Kabul, it was considered that there was a trade well worth striving to secure for Kumaon and adjacent parts; and the favourable results that had already attended the founding of the gardens at Chaubattia (near Ranikhet), which are alluded to as among the first of their kind, encouraged the belief that the scheme embodied the elements of success.

ENGLISH FRUIT.

In Kumaon, English Apples thrive well from imported trees; the Ribston Pippin, for example, which is rapidly becoming extinct at home, through a disease called "canker," comes to great perfection, this variety, as a whole, being described as splendid and highly coloured. English varieties of the Peach also do well, and when the best results are obtained, are said to be in every way equal to the Californian production. The Apricot tree flourishes and bears profusely; indeed, it is referred to as the most prolific and widely spread of all fruit trees in Kumaon, and is equally at home at an altitude of 1000 feet or 8000 feet, although it is at its best between 4000 and 5500 feet. The Sweet Chestnut has been introduced in more recent years, and great things are expected of it. Cherries do well in Kumaon and fetch good prices, but they are grown on a very limited scale. The climate has also been found suitable to the English Plum, but, somewhat strange to say, this fruit has been neglected, although four varieties of the Cashmere Plum, which are very acid even when quite ripe, are plentiful.

DIFFICULTIES OF EXTENSION.

From various sources of information, however, it has been found that there are many obstacles in the way of extending the fruit-growing industry. A long time necessarily intervenes between the outlay of capital on the plantation of orchards and realising returns from the crops, and this of itself has greatly deterred private enterprise. As regards the native, generally, it goes much against the grain to devote the necessary care and time to manuring, pruning, thinning, picking, packing, and to give or provide the necessary protection to the trees from predatory neighbours and robber tribes of beasts and birds, while hailstorms, which create great havoc in some situations, are beyond control. In fact, fruit culture—on the lines that have made it a success in gardens and nurseries belonging to Government, and to the few Europeans and the comparatively small number of the wealthier natives—is, it is to be feared, beyond the poorer class of cultivators, and even if it were within their reach it is questionable how far their apathetic nature and conservative ways would permit them to avail themselves of the advantages offered. Hence, village orchards, it is said, are almost unknown. A section of substantial agriculturists, corresponding to the yeoman class in England, have, however, been found anxiously prepared to seize the opportunity offered by Government nurseries to establish orchards; and, although there have been numerous failures among them, others again have succeeded, and now export to Calcutta and elsewhere.

TRANSPORT TROUBLES.

Another great drawback to any material expansion of the export trade in fruit is, of course, its perishable nature and the consequent difficulty of safe transport. Even Apples, which are least of all susceptible to injury, and which keep at least tolerably well, require to be packed with the utmost care, each fruit being wrapped separately in paper, and then nested in moss, but even then the loss from damage is considerable, which if the packing is carelessly performed, may amount to as much as 75 per cent. On the other hand, we read of Apples from Kulu finding their way as far as Quetta. Pears do not stand travel so well, and, moreover, are liable to instant decay when fully ripe. The Peach, again, it is remarked, will not bear carriage to any distance, and this is also the case as regards Cherries, Raspberries, and other similar fruits, which must, therefore, depend chiefly on local demand. No mention is made of the Apricot's character in this respect, but it is probably little less liable to injury than the Peach.

A CHANCE FOR CAPITAL.

The final conclusions appear to be that the cultivation of fruit in the North-West Himalaya is capable of being made a lucrative business with some outlay of capital, and good, scientific culture. The prices procurable for good dessert fruit in the large hill stations and the cantonments on the plains are enormous; and, however cultivators may extend their operations, the demand must for many years exceed the supply. Even were it impossible to maintain the present very high rates, greatly reduced wholesale selling figures would still leave the cultivator a good margin of profit. It is recommended, therefore, that Government should continue to organise orchards in localities, and teach the zemindars how to insure good crops; and, in short, to make the undertaking successful. It is also suggested that further efforts should be made to persuade villagers to establish similar enclosed gardens for themselves. It seems not improbable that were government orchards, advanced to the stage of yielding crops, made available for purchase on fair and easy terms, Europeans possessed of small capital would be induced to invest and settle down on their property, thus promoting eventually it might be a partial permanent European colonisation of the North-West Himalaya.—(The Globe.)



ROSE MARÉCHAL NIEL.

THIS superb Rose is well worthy of the extended cultivation which it receives, and with the exception, perhaps, of the good old Gloire, I know of none that so well repays the efforts of the cultivator, its great drawback being the shortness of its display of bloom, but during the flowering period I know nothing to equal it in beauty. I know a knotty cracked old specimen that one year yielded over a thousand flowers, and that with little trouble. Where the plant obtains its nourishment is somewhat of a mystery, as it is growing in an 8-inch pot plunged in a border about 2 feet wide, and none of its roots have been observed in the border outside the pot. If they have gone down perpendicularly after leaving the pot they must have found a rich feeding ground somewhere. It is budded on the Briar about 3 feet above the ground. This Rose well repays for cultivation in pots for early forcing, and that cultivation is remarkably easy. Whatever may be the case with some Roses, this Rose grows as well on its own as on foster roots, and roots as freely as a Pelargonium.

Cuttings, which may be had in plenty as the plant ceases flowering, are best inserted singly in thumb pots, using good sandy soil and leaf mould or Mushroom-bed refuse. Place them quickly in a propagating frame in good heat. Bottom heat may be an advantage, it is not indispensable, and they will root in a month or five weeks, or some in less. I have had some rooted in three weeks, and others have taken twice that time. When rooted they are taken out of the frame and transferred into $4\frac{1}{2}$ -inch pots as the thumbs become full of roots; and here I may say that if any do not grow freely at this stage they had better be thrown away, as time spent in coddling a weakly plant is wasted. Employ a compost of sound loam with sand and decomposed manure. From the $4\frac{1}{2}$ -inch pots they may be transferred into 7-inch, using a good compost, and these may be allowed to remain till after flowering.

Our plants are kept in heat, trained up the back wall of a lean-to Cucumber house, till the roots have taken to the soil in the larger pots, when they are removed to the greenhouse and trained up the rafters, and with careful attention grow to the length of 9 or 10 feet by autumn, and after being rested and nailed to a south wall they can be readily forced. If bent down in the same way as young Vines every bud will start. After flowering they may be transferred to larger pots 10 or 12 inches in diameter, and in these they will grow well for several seasons if judiciously fed after the pots are full of roots. I have a large plant which has grown nearly three years in a tub that holds little more than a cubic foot of soil, and for the last twelve months or more this tub has been crammed with roots; yet the plant made several shoots last season, varying in length from 5 to 10 feet and stout in proportion, beside a host of others of less dimensions, but all useful for producing flowers. All the assistance this plant had was a potful of weak liquid manure once a week.

This Rose does not seem difficult to suit in the matter of soil. Two of the most vigorous young plants I ever saw are growing in widely different composts. One is growing in a tub about 2 feet square by 1 foot deep, and was planted in sods freshly cut; the other is growing in mixture of clay and decayed garden refuse. Both are on their own roots and about the same age, and there is little to choose between them. I think that plants on their own roots are nearly as liable to crack as worked plants. I know two valuable specimens that commenced to crack in the main stem about 3 feet above ground. As soon as the crack was observed a box supported on stakes was placed round it and filled with good soil. Roots soon began to appear at the cracked part of the stem, and when the box was full the main stem was severed and the whole plant lowered till the box rested on the ground, when it was knocked away from the ball, which was planted in good soil, and the plant soon grew away as freely as ever. If the crack is situated so that boxing cannot be done, and the stem below is bare of shoots, a few buds may be inserted, and when they have taken the stem may be cut below the crack, which will cause them to start, and if the root is sound a good plant will soon be had. If there is a healthy young shoot below the crack it might be inarched into the stem above the faulty part, and a supply of sap again established. This mode of renewing the cracked stem of a fruit tree is successful, and I see no reason why it should not be applied to the Rose, but I have not tried it.

Some growers prune this Rose severely after flowering, going to the length of cutting all growth back to three or four buds from the main stems. By this method strong growths are obtained, but the blooming capacity is lessened, as flowers are freely produced on the shorter growths which spring from last year's wood. I believe the only pruning needed is that of thinning out the weak growths as the plant becomes crowded. Bending down the strong growths as much as possible when growth has ceased for the season has the effect of causing every bud to break into flower in the coming spring, and also of sending strong growths out from the base of last year's wood, thus securing all the advantages of close pruning without its attendant sacrifice of valuable

flowering wood. I believe it is necessary to bend down the wood early in winter, as I have never had such a regular break when it has been deferred till growth has nearly begun.—ROSARIAN.

PRIMULA CAPITATA.

THE Round-headed Mealy Primrose is perhaps one of the finest of the hardy Primulas, and closely allied to the better known *P. denticulata*. It is botanically known as *Primula capitata*, and was first introduced to cultivation by Sir J. D. Hooker, who found it growing on gravelly banks at Lachen, Sikkim Himalaya, at an elevation of 10,000 feet above sea level. It has also been found common in the Hariab district in boggy and spongy meadow ground that is watered by springs at elevations of 8000 feet. Although a true perennial in its native habitats it can hardly be regarded as such in our gardens; for although a few will continue to flower the second, and even the third year, this is exceptional, and the majority of them die after having flowered once.

It ripens seeds fairly well in good seasons, and a succession may be had in this way; but if the seedlings are raised in pots it is always safest to plant them out as soon as they are ready to handle, as their chance is greater than when kept in pots or boxes. A north exposure should be chosen, shady but open, and employ a mixture of rich loam and peat in about equal proportions. In dry weather they should be kept well watered; indeed, they should never be allowed to get dry at the root, and as much care as possible must be taken to keep the water off the leaves. The seed may be sown as soon as ripe in the autumn, or kept until the spring, say the present time. The latter we think the safer, as the plants gain strength enough to carry them through the winter without showing flower until the second year, unless the situation be too hot.

Primula capitata (fig. 30) grows about a foot high, each plant bearing two or more scapes, and each carrying a large globular head of flowers not unlike a Sea Pink or an Allium. The flowers are sessile, closely packed together, deep purple, set off to the best advantage by the mealy dust that covers the whole plant. The leaves are radical, about 6 inches long, oblong lanceolate, rugose, with sharply serrated margins. From seedlings two good varieties have been introduced under the names of *cœrulea* and *atro-violacea*, the latter being by far the best colour we have ever seen. Another called *grandiflora* seems to be a hybrid. It has distinct leaves, and improves on the type in the size of its flowers, which are produced in June.

CULTURE OF ONIONS.

THE Onion is an ancient root, which helps to digest many important articles of food that would otherwise fail to nourish, while also it contributes materially to the enjoyment of health. My intention is to give my plan of cultivation of this most valuable vegetable. There are two varieties of Onions—namely, the Tripoli, or autumn sown, and the spring sown, but I will deal only with the latter. In the autumn, say October or November, if your ground is light give a thorough good dressing of farmyard manure. By saying farmyard manure I do not mean that you are obliged to get it direct from a farmyard, but such as half-decayed cow or pig manure spread evenly over the ground intended for Onions. On the top of that place a dressing of soot, and do not be afraid of over-application. I am a great advocate for soot as a very valuable fertiliser, in fact I claim soot as the best dressing I can give Onions. After the manure and soot are on the ground dig the latter well, not being afraid of putting the spade deep in the ground, leaving it as rough as possible for the frost and weather to penetrate it thoroughly. This work should be finished by the end of November or beginning of December, leaving it in state mentioned until the first week in February.

Stronger ground should be dressed with a lighter kind of manure—namely, that from the stables, with ashes and soot intermixed, applied in the same way as on light soil, digging thoroughly and leaving as rough as possible; but in this case I consider that this work should be finished by the end of October, as this class of soil requires to stand longer than a lighter soil, leave it rough until the first week in January, when it should, if weather permits, be forked lightly over, giving another dressing of soot, but not such a heavy one as before, leaving it then until the first week in February. The first week in February give another dressing of soot, and then rake all over with a wooden rake, such as is used in the hay fields. This completed, go through the same process with an iron rake merely to level the ground. Then go over it again, tread all firmly with the feet close together, and cross it in the same manner, afterwards raking to level the foot marks out, and the ground is then ready for the seeds.

I prefer the drills to be 14 inches apart, it being a great mistake to have the rows too close, as it is then very difficult to keep the ground clear in the growing season, and if weeds are allowed to grow they check the growth of the Onions in their young state, which keeps them weak, and the fly has a better chance to penetrate than is the case with strong young

plants. After having got all ready, commence to make the drills about an inch deep, or less than that if possible, as the seed merely requires covering. I, as a rule, get the ground all drilled before I commence sowing. I would advise everybody to get the best of seed from a reliable firm, because if it costs more at the time of buying, it will prove the best in

sorts. There are, of course, other good varieties, but whatever sort you buy have it of the best.

When the seeds are sown go up each drill, treading firmly, or if a small roller is at hand run that over, finishing off with the back of a rake. As soon as the Onions can be seen in the rows give them a



FIG. 30.—PRIMULA CAPITATA.

the long run. There is nothing gained by cheap Onion seed; but on the other hand, bad crops and disappointment is the result. I always grow as the main crop Sutton's Improved Reading, of which I have obtained from a plot of ground measuring 9 rods 40 bushels of excellent bulbs; it is a splendid keeper, and not quite so strong in flavour as some

dusting of soot on a damp morning or evening; not a heavy dressing, but just sufficient to colour the ground about them. That protects them from the fly and helps them on. This course must be followed up twice a week, and as the Onions get stronger commence thinning, leaving the bulbs 2 to 4 inches apart in the rows unless wanted for pickling

purposes, as in that case they of course will require no thinning. Choose a dull or rainy day for the operation. After they have been thinned about a week or ten days give them a very slight dressing of nitrate of soda, which is a valuable manure if applied with caution; but let it be used very carefully, or instead of doing good it will do harm. I give mine about four dressings in the season, with a little salt added. Onions must be at all times kept free from weeds, so as to admit all the sun and air possible, and if these directions are followed you will not be troubled with the fly and maggot.

Keep them growing, and apply dressings of soot twice a week. No fly will then appear. By giving them a little extra attention you will be well repaid for the labour and time expended on them.

About the middle of August preparations must be made to have them well ripened, otherwise they are liable to go bad. It is my plan about the middle of August to bend the tops of the Onions down with the back of a rake all one way to allow the sun to thoroughly ripen the bulbs, leaving them like this until the middle of September, at which time I remove them from the ground, and have them put in a dry airy shed; or better still, lay them on old sacks or mats in the full sun, so that they can be conveniently moved in case of rain. Having got them well ripened I make mine up in ropes about 3 feet long, and hang them in a loft, where they are left until wanted.

The great enemy to the Onions is the maggot, which proves very destructive; but I find the best means of eradicating this pest is to start at the root of the evil—that is, in the autumn give a good dressing of gas lime, and dig it in at once, if there are any maggots left in the ground they will be destroyed. I have been most fortunate in this case, having never been troubled with the maggot. At this time of the year if the bed for the Onions has had no thought preparations should commence without delay; work some good short manure into the ground, with soot added, digging it in about 6 inches deep with a fork very lightly, then dress with soot, rake, and sow your Onions the way mentioned above.—C. B.

YOUNG GARDENERS.

THEIR HOURS AND HABITATIONS.

I CANNOT agree with some of the remarks made by "W. B." (page 122) on this subject. For instance, "The reason our under gardeners work the many hours they do is in many cases mainly, if not wholly, the fault of those who are at the head of affairs." I doubt if gardeners in the majority of establishments have the arranging of this matter, and on large estates so many interests are affected, and any alteration in the working hours of one department would have to be followed in others. It may be of interest to state what has been done in this respect on a large estate in Yorkshire on which I have had the honour of serving for many years. Five years ago the experiment was tried for the six summer months, all workmen to leave their work at midday on Saturdays. I was consulted as to how it would affect the gardeners, and replied that it would be impossible for all the men to go, but that I was strongly in favour of the half-holiday, and anxious that my men should not be deprived of it; so I suggested it would only be fair to pay overtime to those who remained. This was settled in their favour. By paying 4d. an hour for all extra time I found the work was not neglected, but the men were anxious to get finished as soon as possible.

Horsemen employed on the land were paid extra wages, as their stock needed attention, and they finished work at the usual time. The above arrangement answered admirably, but the privilege was withdrawn after one season's experience, owing chiefly, I believe, to the tenant farmers (this being an agricultural district) complaining of their workmen being dissatisfied. Now they work from six to half past five, with one and a half hour for meals, and three o'clock on Saturdays; by that time the bulk of the watering is over, the closing of houses being done by the man on duty.

The system of paying for overtime I consider preferable to having all the young men at work on Sunday mornings without pay, as is the case, with the exception of the man on duty. By having two or three men to work a couple of hours extra in their turn on Saturday afternoons a great deal of "W. B.'s" Sunday work might be avoided.

I may say that neither has wages increased as he would have us believe. In this locality labourers are receiving 1s. per week less than they were twenty years ago. The tendency too, I find, is to offer lower wages than were formerly paid to head gardeners, when a vacancy occurs, owing to the depressed times; and as the supply of gardeners is much larger than the demand, I cannot see any likelihood of an improvement. Neither do I think the Saturday half-holiday for gardeners is likely to become general, as we are still classed as domestic servants, and until that stigma is removed some gentleman will doubtless consider that his housemaid or groom has as much right to the Saturday half-holiday as his gardener.—S., Yorks.

HAVING read with pleasure and approval the articles in the *Journal of Horticulture*, by Mr. Bardney and others, on the conditions of young gardeners, I may say that I agree with them that there is yet sufficient room for improvement in their condition; although in many places circumstances and location make it such that the Saturday half-holiday is not the best method to adopt in every case for the men's interest and convenience.

I may be allowed to mention the method adopted in the establishment over which I have charge. We do not follow in the line of the

Saturday half-holiday. The matter was brought up two years ago, and, after considering the pros and cons of the question, the system now adopted was considered by the young men and myself to be the best in our case. We are located in a quiet country place, distant by rail some seventeen miles from Glasgow, and it was agreed that instead of having the Saturday afternoon, each man should have a week's holiday during the season and a day off whenever he wished it, they also having no broken time. As none of the young men employed belongs to the district, but are representatives of the three countries, and their homes consequently at a fair distance from here, the system works well; besides, the district in which we reside has no such attractions as cricket or football clubs, and the half-holiday not being a general thing on the estate or in the locality, there would be little other for the young men to amuse themselves with beyond strolling about or by taking train to Glasgow, while, again, the railway facilities offered by the company are not such as to induce them to go often. I therefore think the system we have adopted the best everything considered, seeing they can get away as occasion requires.

My employer is a very considerate gentleman, and is desirous that everyone employed by him should have home comforts. Until two years ago that could hardly be considered the case; but on the matter being brought under his notice he at once gave orders for an extension of the men's quarters, with more convenience and more attention to their comforts. It would be well to bear the views of more of the brethren on this thorny question.—D. BROUGH.

THERE is joy in bothydom; a joy of recent birth, but not premature, we may hope, springing, as it has done, from the matured thought of one duly qualified and capable of expressing it. If Mr. Bardney's ears are not tingling pleasantly by reason of the vast amount of complimentary criticism upon his article, then for once and for ever may the auricular irritation, supposed to infect one when talked of in their absence, be relegated to the great company of exploded myths. How many pneumatic tyres are already inflated with hope, how many football fields are already lost and won since the veteran set the ball rolling may be easier imagined than computed; for that all this and more also is under discussion by our lads of the bothy, goes without saying.

But this, at least, is premature. It will be time enough, if necessary, to arrange the filling in of the Saturday half-holiday when it is an accomplished fact. Is it likely to be, to become sufficiently general to warrant its being so designated? It would be helpful to this cause if a few more men of the Bardney stamp and position would speak up, provided, of course, that they spoke for it. Moreover, if some of these will take the initiative—lead the way in giving it, then it will strengthen the hands of less privileged, not less willing, "heads" to place this matter in strong force—the force of example—before the powers that be.

But there are principles involved reaching far beyond the garden. Principles, too, it would be both selfish and unsafe to shut out of our present calculations. What of the farm men, the forester's men, or each and all of the workmen within the gates of a demesne? The demesne only, please note; we have ample scope here without treading on more contentious ground. "This is not our concern," may be said. Well and good. But that it does concern the question cannot be ignored, for these men all have their wants and will feel them the more acutely if the Saturday half-holiday when operative is confined to the garden. The farming side of the *Journal of Horticulture* leaves an opening for discussion of this phase of the question. Who will speak up for those who are not likely to speak up for themselves, or who will assert that this side of the story dares to be left out of our reasoning if we hope to succeed?

I know that this view of the matter is in some places already a factor which bars the way to a practical settlement. Places in which a favourable ear is lent to the question so far as the garden is concerned, but so far as becoming law it may be favourably viewed and commented on for generations to come with no other result. There are undoubtedly many points that can be reasonably advanced in favour of the Saturday half-holiday for young gardeners, and very few, I think, against it; provided, of course, that all contingent arrangements are made respecting those duties which must be attended to. But most of these arguments, whether they be pros or cons, are as applicable to the workmen in the same area.

From my own experience I believe that, so far as work is concerned, the last half-day of the week is but of comparatively little value. A spurt is put on earlier in the day to clear up small arrears in addition to the day's work, which rarely includes the beginning of fresh jobs. The zest afforded by the contemplation of the Sunday's freedom, now at hand, has practically completed work by dinner time, little remaining but the washing out, a job which is tentatively made to fill in the remaining dragging hours. Such was my Saturday's experience of bothy life, nor does it require any very acute observation to note that, in this respect, things are pretty much the same now.

This is, I think, a powerful plea for the holiday, and it is a state of things not confined to a few places; many there are in which even an hour's grace would be a veritable boon. In one large establishment employing many men privileges were accorded to all on the estate except to us—the young gardeners. The garden labourers left off at 4 P.M. on Saturday, and what a weary drag it was on our chafing spirits in biding our time. Hence the reason, perhaps, of our master now and again mercifully (?) finding some work for idle hands to do, and work sometimes absorbing all our energy to accomplish by 7 or 8 P.M.

Ah! I could a few tales unfold from the past which might startle

some of you young bothyites; but I am not going to startle you. You would, I am sure, be the better for your holiday, and, moreover, I believe your chief and your work would be the better for your having it, or you are not what I take you to be. That it will become an institution of British gardening I somewhat doubt, unless those indirect bearings I have endeavoured to bring forward are made a factor in the question; hence they are respectfully submitted for your consideration by—
AN OLD BOY.

FRUIT SUPPLY OF COVENT GARDEN.*

[Paper read by MR. GEO. MONRO at a Conversazione of the Horticultural Club.]

To commence with, I will state that it is quite impossible to get at exact figures in regard to the quantities of any one kind of fruit, or even of the whole, and I shall only give as far as I can a rough estimate. The Market is supplied from so many different sources, and coming in at all times of the day and night, although the authorities check in goods that bear toll, a great proportion is brought in by yearly stand-holders who do not pay toll, and whose totals are not checked. I understand, too, that the Market authorities do not distinguish between fruit, vegetables, flowers, or roots in calculating tolls, so that even if I could give you their exact figures, the fruit would have to be an approximate quantity based on knowledge gained by observation. That from 700 to 800 porters get a living in unloading and delivering produce will give some idea of the quantities to be handled, besides another 150 on the average employed for foreign trade.

It is the general rule to employ a separate staff of porters to unload goods and carry in, so that those engaged in carrying out are not hindered. I employ a man at so much per score, according to size of package, who is responsible, and he has to employ sufficient hands to clear the vans as they arrive, and the amount spent in this way can only be judged by the fact that the one I employ often has to draw from £20 to £30 weekly, representing 20,000 to 30,000 packages. Of course a great proportion of this is not strictly fruit, but in my case would consist wholly of either fruit or hothouse produce, such as Cucumbers and Tomatoes.

Strawberries—These are the first fruits of the season, and they commence in small quantities in February, increasing weekly until May, during which month I think I shall be quite within the mark in saying the daily supply averages nearly a ton, and keeps about the same during June until the outdoor fruits commence, when of course the supply from Hampshire, Essex, Middlesex and Kent, is simply enormous, although every year a greater proportion is sent direct to the country markets, whole trains being made up in Kent for the North. This also refers to all kinds of fruits, so that the quantity passing through Covent Garden by no means represents the whole crop, even round London. Also, Strawberries particularly, are largely sold in other London markets, especially the Borough, where many Kent growers sell their own.

Currants, Gooseberries.—These and other soft fruits at one time used all to come to the London markets, but year by year a greater proportion go direct to the North, and this last few years a great deal has been made into jam in the country without being put on the rail at all. This refers also to Strawberries and Raspberries.

The same can be said of stone fruits, especially Plums, and it certainly is much better to use the fruit while perfectly fresh than to give it an expensive ride for a day or two, and then into the pot at the finish. If there were more jam factories in the fruit growing districts there would be less spoiled in wet or plentiful seasons.

Apples and Pears.—These I will take next, and the quantity of each received varies yearly, especially the latter, and I suppose no growers are so dissatisfied with the state of trade as the growers of these, and it is mainly their own fault, for I must repeat what I have often stated, that there is no fruit comes to our market, either home grown or foreign, which has so little care taken with it as English Apples and Pears. While this is the case growers must not wonder at fruiterers buying foreign produce whenever they can. But this is simply suicide, as the English Apples particularly are far better in quality than any foreign, and if sent in unchargeable boxes, well selected and graded, there would be a far more ready sale. I was in a large wholesale co-operative store in Manchester last autumn, where they had English and American Apples side by side, and on asking the quantity of each sold was informed about 1000 barrels (3000 bushels) American, against 100 bushels English, and simply because the packing could not be depended upon. This is a point that must be taken into consideration by those planting Apples and Pears, if they want to hold their own against foreigners.

There seems now to be a decided step in the right direction with English Apples. They are certainly much better on the whole. I think this is partly due to the season, and to the fact that the newer plantations of good fruit are coming into bearing, as well as the fact that only the best have paid to grow for market.

Forced Fruits.—These are of course received in increasing quantities each year, until what were at one time luxuries at fancy prices have become almost daily articles of commerce, especially Grapes, Tomatoes, and Cucumbers, and of these it is less difficult for me to judge the quantity grown.

Peaches and Nectarines—These commence in small quantities in April and keep on till November, the bulk coming from the beginning of June till end of September, and by aid of a variety of sorts and different temperatures some growers will keep a daily supply during that time. Of course this wants a great deal of management, as we all know what

a change in the weather means to a Peach and Nectarine grower. Last year there were often 1000 boxes of Peaches and Nectarines on the market daily, and with the thermometer at 80° and a close atmosphere it is the most difficult trade to manage of any I come in contact with, as there are so few buyers compared with other fruits; but thanks to the energy of growers in keeping up a regular supply, the outlet year by year is widening. English Peach growers may be assured that no foreign fruit of good quality can travel the distance and compete with them.

Figs and Apricots.—These are still grown in small quantities, the bulk of the former coming from the Channel Islands, whence there are about 100 baskets, containing four to six dozen, daily through August and September, outdoor grown, and a few forced ones commencing in March.

Melons are also still limited in supply, as they also are fancy fruit and uncertain in price, but I daresay there are often 100 dozen daily from June to September.

Grapes.—As you all know, these have increased more than any other forced fruit, and I shall be well within the mark in estimating last year's crop of English for market at 1000 tons, of which about three-fourths will pass through Covent Garden (besides Channel Islands and Belgium), the bulk being of late varieties, principally Alicante and Colman, so that we have one year's crop on the market fully a month after the succeeding one has commenced, and in this way have made it very difficult to import Grapes at a profit.

From the Channel Islands I estimate we receive quite 1000 tons, some 500 to 1000 tons being also distributed amongst the provincial markets. From Belgium the supply I should imagine has reached about 200 tons, a much larger proportion coming to us the last two or three years, owing to a prohibitive duty preventing them from going to the Paris market.

Cucumbers.—These have also largely increased, the daily supply from March to the end of July being about 1500 flats, averaging three dozen each, and from then till the end of October about half the quantity. These last few years I have also opened a large trade on the Continent, especially Germany, sending some days 300 to 400 dozen, and this trade shows signs of increasing, as fresh customers keep applying. At one time the bulk of our supply came from the Continent, but enterprising growers at home have in this instance turned the tables on foreign supply. This great increase has, in a great measure, been due to the care taken in grading and packing, as well as a suitable and uniform package being used.

Tomatoes.—In these growers have surpassed themselves, and in a great many cases driven the foreigners from our markets. The supply from March to November being simply enormous, and I should think quite 2000 tons passed through our market, house-grown, last season, besides a very large quantity of outdoor ones.

Large supplies also come from the Canary Islands from December to April, but this fitting into the time when our home ones are off the market does trade good by holding customers on to fresh Tomatoes until our next crop is ready. There are also some French and Spanish, but less quantities year by year. I consider that the trade in these, as well as in Cucumbers, has been made by a regular supply of a good article, well and fairly packed.

As everyone knows, the acreage of glass houses to obtain the supplies of the last three mentioned—viz., Grapes, Cucumbers, and Tomatoes, is very large, giving employment directly to thousands of hands, and indirectly helping a great many other trades, especially the iron, glass, and wood, as well as the basket makers. The firm who makes most of mine keep thirty men all the year round on to my orders, besides which I use a good many made on the Continent. Go where you will, some people are earning something out of the trade, and I think it is becoming an important national industry and deserves the greatest encouragement both from Government and the railways.

FOREIGN FRUITS.

These are an important element in our market and in the trade generally, as the continual supply from different parts of the world keeps many retail shops open which would be compelled to close if depending solely on home-grown supplies, and in many kinds we are entirely dependent on them, such as Oranges, Bananas, Lemons, and of late years Pine Apples. The foreign fruit and flower trade in my early days was regarded as a nuisance by many market salesmen, but the provision made for it in the foreign fruit market has turned it into a blessing. We have converted a dangerous rival into a generous friend. It is useless to attempt to exclude from market articles the public requires and the producer can bring. The wider the basis the more firm is the commercial edifice you build upon it.

Oranges.—These are the most important of our imports, and come from every part of the world, wherever it is possible to grow them, commencing with Brazil, Jamaica and Florida, and followed by the Southern Europe or Mediterranean, also occasionally from India and even Australia. The bulk of these arriving in the Thames used to be sold by the brokers in Pudding Lane, but every year a larger proportion comes to Covent Garden, especially the better class ones. Lemons also come to us in larger quantities every year, and they also keep arriving from new countries, such as Florida and Australia; and wherever they come from, whether Oranges or Lemons, and if only worth here about 2s. per bushel, every fruit is carefully wrapped in paper, so that if a certain portion get over-ripe they do not affect the bulk so much as if they came in the way Apples are packed (save the word) in England. What would an English grower say if one asked him to wrap each Apple in paper when worth only 2s. per bushel?

The soft fruits from abroad commence with Strawberries, some very good ones coming from Honfleur in shallow handle baskets, containing about 6 lbs., some hundreds of baskets arriving daily in May. These are followed by Red, White, and Black Currants from France, which, as a rule, are very fine, and coming, as they do, before ours are ripe, sell well. Then come Cherries, commencing from Spain and the South of France, and working North as the season advances; in this way they make a long season, covering about two months, and there has been over 20 000 flats sold in one day about Whitsuntide. But by being picked unripe, to stand the journey, they are much inferior in quality to ours, and I think it is only because they come at a time when there is not much variety of fruit, as well as being very tastefully packed, that they sell.

It is when Green Gages and Plums commence that the salesmen of foreign fruit get busy, as the enormous amount of those coming, and the long time they cover, is marvellous, an increasing quantity coming each year from Italy, so that from the time they commence, so far South, until Paris, the North of France, and Germany contribute their crops, covers about three months. As many as 10,000 to 15,000 flats are often sold daily before our English Plums are ripe. Apricots, too, thrive better abroad, and come in considerable quantities from Southern France and Spain.

Pine Apples.—These now are entirely a foreign fruit, as it is quite a novelty to see an English grown one, and then only from private places. But they come in shiploads from the Azores, and although the price is much lower than it used to be, they still increase in quantity. At first they only attempted to send them while the Orange boats were running, but of late years it pays them to run special steamers for Pines alone, the value of that crop being now much more than that of the Oranges grown there. The St. Michael Pines, too, have almost driven the old West Indian Pine from our market, as the second class fruits are sold as cheap or cheaper than the West Indian ones used to be.

Grapes.—These still come in large quantities from Spain and Portugal, but with the exception of Almerias, which keep for months in cork dust, there are very few pay to come, and I think it is not far distant when the Almeria growers will have to turn their attention to something else. The only imported ones now finding favour are those coming from the Cape, and as these are principally black and white Muscats of fine quality, and also coming in March and April when our home grown ones are scarcest, they are acceptable as a good quality low-priced Grape.

Pears.—These commence from France and Italy with such sorts as Jargonelle, Louis Bonne and Williams, and up to two years ago our main supply was from there, but now cool chambered ships and cool cars in trains bring such sorts as Williams, Beurré Hardy, and Doyenné du Comice by thousands of cases, in perfect condition, from California; and if it can be made to pay by reducing freight the supply from there seems enormous, and will run the French very close as well as the English; but at present the freight of a case containing 40 lbs. fruit is over 4s., and unless temperature is very carefully regulated, they turn very quickly when exposed, and do not keep so long as the French; some very fine Plums have also come from there in good condition. California has a great advantage over England in regard to Pears travelling, and that is, they seldom get rain while the fruit is ripening, and that of course is greatly in favour of any fruit standing a journey, as well as the hotter climate ripening them more thoroughly. Pears coming in winter do not need cool chambers, and therefore come at a lower freight. A great many Peaches came from California this last autumn, but were of very poor quality, being mostly clingstones, and were only fit for costermongers.

Perhaps of all the imported fruits Apples touch the English grower most, as they come now nearly all the year through, commencing in April from Tasmania, followed by those from France, Italy, and Germany, and all the winter from the United States, Canada, and Nova Scotia. But notwithstanding all these supplies I maintain that our growers could hold their own if they would grow saleable sorts and take the necessary trouble in packing.

From all reports the Tasmanian growers cannot increase the quantity, as the freight and cost of case comes to about 4s., and by being so long in the cool chamber they are not a patch on English for flavour, and if larger quantities come it will be impossible to get a remunerative price for them. American apples do not need the expense of cool chambers in transit, but to enable them to send all through the winter they are compelled to keep them in expensively constructed warehouses, where an equal temperature is maintained so as to protect them from heat as well as frost, and so enable them to lengthen the period of sale as much as possible. And this of course adds greatly to the cost, while our climate, suiting Apples as it does, should enable us, by adopting the right system of grading and packing, to hold the American at bay till the bulk of our crop is sold, and instead of this growers seem to play with the trade all the autumn and winter, with the result that in a full season as many are wasted as marketed, while the foreigner, by growing saleable sorts and putting a regular supply on the market, secures the bulk of the trade with an inferior article.

Tropical fruits come in very small quantities, except Oranges and Bananas, the latter increasing in popularity each year; they come from Madeira and Canary Islands principally, but attempts are continually being made to bring them in good condition from West Indies and even South America. Mangoes, Custard Apples, and Avocado Pears from Madeira, Lychee Nuts from China, and an annually increasing quantity of Green Figs, Walnuts, and all kinds of nuts from Spain, Italy, Greece, and many other countries.

Having touched briefly on our fruits and the sources from whence they come, I think we must arrive at the following conclusions:—

1, That the English are becoming much larger fruit eaters than they were, and this contributes largely to the decrease of drunkenness, amongst the lower classes especially.

2, That an attractive and suitable package is always of great assistance in establishing a trade, and that no trade can be made without a steady and constant supply.

3, That the demand having increased to such an extent, it now pays growers to devote their time to fewer articles, and by giving their whole attention to them, are more likely to succeed than by dabbling in everything. The grower who sends the largest quantity of a good article regularly, makes a large connection for his goods, and we can often sell out a large consignment to better advantage than a small one, though the quality of the latter may be equally good.

4, And, lastly, that the old parrot cry of doing away with the middleman is, or should be, quite exploded, as any practical grower knows it pays him best to devote his time at home and leave the selling to one who makes it his business; and a very difficult business it often is, as it is most ruinous to a trade to take advantage of an apparent scarcity, for we often find we gain a few shillings and perhaps check the trade and lose pounds in getting the customers on to them again. The distribution of fruit is a business in itself, and as the old cry still occasionally crops up in our horticultural press, I cannot resist a word in behalf of the importance of the "middleman."



MR. E. MOLYNEUX UP TO DATE.

SEVERAL years ago we published the portrait of this well-known gardener when he was near the zenith of his Chrysanthemum growing fame. He has changed since then, and so have the flowers, especially the Japanese varieties. Whether he would take the same lead in competition in these days as he once did with Japanese blooms, is a moot question. We have more imposing varieties now, and there are more skilled growers than ever. He knows very well that the best stands of ten years ago would have no chance now in leading competitions. There has not been the same striking advance in the culture of incurved blooms, though excellent varieties have been raised, which, when well represented, add weight to exhibits; yet, we may venture to say, that rarely do we find stands of them that excel, or even equal, in depth, firmness, and superb finish combined, those of the *ci-devant* exhibitor and present day judge. After an intimation that we should give a recently taken portrait of Mr. Molyneux, we had sundry letters referring to the matter. In all of them, from writers who had been in correspondence with our coadjutor, but had not seen him, the proposal was welcomed. One person, however, was a little inquisitive, but also it would seem, a little shy, for, without disclosing his identity, he managed to get someone else to write and ask "Why we intended giving the photo." The bold intermediary had a private reply, from which he would gather that his question was considered premature, and he will, perhaps, not consent in haste to be a secondhand fisherman again. We give the portrait—1, Because we have been requested to do so entirely unknown to Mr. Molyneux; and, 2, because he has bestowed more pains and labour in carrying out the recent Chrysanthemum election, including the tedious and time-absorbing nature of the tabulation, than persons who have not had experience in such work can have little idea. As he has, as far as he could, shown Chrysanthemums up to date, we do not think the occasion inappropriate for showing the returning officer "up to date," and that is the "reason why" he is privileged to appear in connection with the work that he has done so well.

CHRYSANTHEMUMS UP TO DATE.

In our issue of February 20th, the votes in Mr. Molyneux's analysis for fifty Japanese, twenty-four Japanese, and twelve new Japanese were published, and we now complete the work by giving the votes for thirty-six and twenty-four incurved. This section, like the other, will be found extremely interesting.

VOTES FOR THIRTY-SIX INCURVED VARIETIES.

99 Lord Alcester	95 Miss M. A. Haggas
99 Empress of India	95 Baron Hirsch
99 Jeanne d'Arc	94 Miss Violet Tomlin
98 Queen of England	94 Robert Petfield
96 Princess of Wales	92 James Agate
96 Mrs. S. Coleman	92 Madame Darier
95 Charles H. Curtis	91 Golden Empress of India

VOTES FOR THIRTY-SIX INCURVED VARIETIES (continued)—

88	Mrs. Heale	7	Emily Dale
85	Brookleigh Gem	6	George Haigh
84	Lord Wolseley	6	Flora Macdonald
84	Prince Alfred	5	Prince of Wales
79	Alfred Salter	5	Bonnie Dundee
78	Lucy Kendall	5	George Cockburn
77	John Doughty	4	Noel Pragnell
76	John Lambert	4	May Tomlin
76	Mrs. Robinson King	4	Harold Wells
75	Globe d'Or	4	Richard Parker
74	Hero of Stoke Newington	4	Mrs. L. C. Madeira
70	Mons. R. Bahuant	3	Camille Flammarion
68	Princess of Teck	3	Cherub
68	Lord Rosebery	3	W. Carpenter
63	C. B. Whitnall	3	Mrs. G. Rundle
63	Lady Dorothy	3	Sir Titus
54	Mrs. John Gardiner	3	Beverley
52	Mrs. R. C. Kingston	2	Marquise de Paris
51	John Salter	2	Comtesse de Forbin
49	William Tunnington	2	Golden George Glenny
47	Mrs. Norman Davis	2	Isabella Bott
44	Major Bonnaillon	2	Mr. Brunlees
		2	Mr. Cobay
43	Refulgens	2	Mabel Simpkins
41	Nil Desperandum	1	Director Kowallack
38	M. P. Martignac	1	Miss Bella Wilson
35	Empress Eugénie	1	Percy Surman
35	Lady Hardinge	1	Lemaille
30	Mrs. W. Shipman	1	Bronze Jardin des Plantes
29	Charles Gibson	1	Mrs. J. Eyerman
28	D. B. Crane	1	Rivelyn
27	Robert Cannell	1	Duchess of Fife
26	Alfred Lyne	1	Mr. Geo. Glenny
25	Madame F. Mistral	1	Mrs. F. W. Flight
22	John Fulford	1	Mrs. W. Peto
21	Novelty	1	Mrs. Clibran
19	Owen's Crimson	1	Abbott's White
18	Barbara	1	Nonpareil
16	Ami Hoste	1	H. Shoesmith
15	Jardin des Plantes	1	White Venus
15	Mr. Bunn	1	Miss M. Morgan
14	Princess Beatrice	1	White Beverley
11	Mrs. Mitchell	1	Aristine Anderson
11	Mr. J. Kearn	1	Golden Beverley
9	Lord Eversley	1	Lord Derby
8	Golden Queen of England	1	Mabel Ward
8	Beauty		
8	Mr. James Murray		

107 varieties

VOTES FOR TWENTY-FOUR INCURVED VARIETIES.

99	Lord Alcester	10	Empress Eugénie
99	Empress of India	9	Mrs. John Gardiner
95	Queen of England	8	Golden Queen of England
94	Charles H. Curtis	8	Refulgens
93	Jeanne d'Arc	7	Charles Gibson
91	Princess of Wales	7	Owen's Crimson
90	Golden Empress of India	6	Mrs. W. Shipman
90	Miss M. A. Haggas	5	Emily Dale
89	Baron Hirsch	5	Mr. Bunn
86	James Agate	5	George Haigh
83	Mrs. S. Coleman	5	Princess Beatrice
82	Miss Violet Tomlin	5	Robert Cannell
75	Robert Petfield	4	Mr. James Murray
74	John Lambert	4	Mrs. J. Mitchell
66	Madame Darier	4	Jardin des Plantes
64	Lucy Kendall	3	Alfred Lyne
63	Alfred Salter	3	Ami Hoste
62	Globe d'Or	3	Barbara
59	Mrs. Robinson King	3	Harold Wells
59	Lord Wolseley	2	Prince of Wales
58	Mrs. Heale	2	Novelty
56	John Doughty	2	Bonnie Dundee
50	Prince Alfred	2	Mr. J. Kearn
48	Brookleigh Gem	2	Marquis de Paris
		2	Noel Pragnell
40	Mrs. R. C. Kingston	1	Mrs. F. W. Flight
39	Hero of Stoke Newington	1	Isabella Bott
36	Mons. R. Bahuant	1	W. Carpenter
35	Princess of Teck	1	Beauty
33	Major Bonnaillon	1	Cherub
32	Lord Rosebery	1	Mabel Simpkins
27	William Tunnington	1	Miss Mary Morgan
23	C. B. Whitnall	1	Flora Macdonald
21	Lady Dorothy	1	May Tomlin
18	Nil Desperandum	1	Sir Titus
16	M. P. Martignac	1	Madame F. Mistral
15	D. B. Crane	1	George Cockburn
14	John Salter	1	Camille Flammarion
13	Mrs. N. Davis	1	Lord Eversley
11	Lady Hardinge		
10	John Fulford		

79 varieties.

THE CHRYSANTHEMUM ANALYSIS.

I SHOULD like to offer a few remarks on the Chrysanthemum election noted in your pages last week, one thing striking me as being curious—viz., the inclusion of such varieties as Calvat's Australian Gold, and Mephisto, which have never been grown in this country; also new varieties, such as Edith Tabor, Emily Silsbury, W. Slogrove, and others. I would respectfully suggest that only varieties that have been in commerce twelve months be included in this election. Of course the varieties mentioned above do not come within this category. [The list would not then be "up to date."—ED.]

So far as I am acquainted with the leading varieties, I consider the selection a very good one. There are certainly one or two varieties that I might not have included in the first fifty, but will refrain from mentioning these in face of the general excellence of the list.

It ought to be a matter for congratulation amongst British growers and raisers that the British-raised varieties hold the premier position in the first fifty, the number of varieties claiming this distinction numbering, I believe, twenty, being closely followed by the Continentals (eighteen) and Americans (eleven), while one variety (Hairy Wonder) is of Japanese origin.

When visiting the N.C.S. exhibition in November last I particularly admired a group of foliage plants and Chrysanthemums put up by a firm of Chrysanthemum specialists near London, and understand that a gold medal was awarded for the same as a group. Bearing these facts



FIG. 31.—MR. E. MOLYNEUX.

in mind, I do think it misleading for that firm to advertise their specialties in Chrysanthemums, and point to the gold medals awarded to the firm for new Chrysanthemums.

I would like to ask the Secretary of the N.C.S. if a gold medal has ever been awarded to purely new Chrysanthemums? I venture to think not, and do not see any excellence from the raiser's point of view in putting up a group of Chrysanthemums with other plants, whether grown by the exhibitor or not. Other firms or private growers in various parts of the country might probably arrange as good a group of plants if they could be relieved of the expense of transit to and fro, which is a considerable item.—T. V. D.

I FEEL sure there are many interested in the Chrysanthemum who are like myself desirous of thanking Mr. Molyneux for his painstaking effort in endeavouring to arrange in some order of merit the many scores of Chrysanthemums that now exist, and to say how much we appreciate his labours and those of his helpers in trying to arrive at a satisfactory and reliable conclusion. The surest means of obtaining such an end is only naturally in so broad a subject open to question, and doubtless opinions are diverse and numerous as to the best course to pursue.

On paper Mr. Molyneux's article explanatory of the audit seems excellent, and as he says on page 155 of your Journal, "it cannot be said that the arrangement is other than a thoroughly representative one." No one can deny that statement as applying to Great Britain, but I venture to think that the arrangement is not a practical one, and only a very rough examination of the list seems to confirm it.

The most prominent inconsistency is that pointed out by your correspondent "D." (page 189) in reference to Madame Carnot, and what grower having seen Mrs. Weeks and Philadelphia (10 votes each) exhibited would consider them of equal merit, and omit to place the former in the first fifty if novelties are to be included under that heading

as has been done. But surely novelties ought to be excluded from such an audit. Also if old and well tested varieties, such as Val d'Andorre (3 votes), W. W. Coles (4), Mons. Bernard (5), receive so few votes, how can they be compared, much less placed in the same category, as Lady Byron (4 votes), M. Aug. de Lacvivier (4), &c. &c.? Further, Thunberg (2 votes) and Australian Gold, a tremendous flower as shown, not coarse and good colour (2 votes), and yet how unequal in reality? It is difficult to understand that the voters in the fifty and twenty-four Japanese are the same.

Then with regard to the audit of "twelve new Japanese," in addition to the inconsistent position of Madame Carnot and Edith Tabor, there is Mrs. W. H. Lees not even placed, and receiving only 8 votes against 99 and 87 respectively placed seventh and eighth in the fifty and twenty-four Japanese, and if John Seward receives more votes than Dorothy Seward in the fifty and twenty-four Japanese, one would expect to see it in front of the latter in the twelve Japanese.

I have only instanced one or two of the more noticeable features in the audit, and feel confident in saying that had the number of voters been reduced to say twelve, consisting of the largest and most successful exhibitors amongst gentlemen's gardeners, a reliable result might have been attained, although in the case of the twelve new Japanese which are often only seen at the committee tables in London, doubtless it would have been more satisfactory to have taken the opinion of a few of the best growers (excluding the trade and raisers) residing within a certain limit of the metropolis.—H. BRISCOE-IRONSIDE.

ECCLES AND PATRICROFT CHRYSANTHEMUM SOCIETY.

AT the recently held annual general meeting it was decided that the Chrysanthemum show for the present year should be held on Friday and Saturday, the 13th and 14th November.

ENGLISH CHRYSANTHEMUMS IN AMERICA.

WHILST many of the American varieties have attained a large amount of popularity in this country, it is surprising how few English-raised varieties succeed in America. Among the former are Mrs. W. H. Lees, Mutual Friend, H. L. Sunderbrück, Col. Smith, International, Eda Prass, Duchess of Wellington, Mrs. E. G. Hill, Mrs. Wheeler, W. H. Lincoln, and W. Tricker of the exhibition varieties, with Clinton Chalfant, the brightest and best midseason yellow; E. G. Hill, the best late yellow; Ivory, the best October white; and L. Canning, the best very late white among the decorative.

One of the leading Chrysanthemum specialists in America has favoured me with a list of the most popular varieties in that country. He writes:—"The leading sorts at the shows this year have been Mayflower, Miss F. Pullman, E. Dailedouze, Mrs. H. Robinson, John Shrimpton, Triomphe St. Laurent, Mrs. Perrin, Philadelphia, Viviani Morel, Katherine Leach, Major Bonaffon, Golden Wedding, H. L. Sunderbrück, Mrs. G. Pitcher, Inter-ocean, Achilles, G. Bramhall, Yellow Queen, and Mrs. Murdock. These were the most prominent varieties at Chicago, Philadelphia, St. Louis, Indianapolis, and Atlanta—in fact, I have travelled 2500 miles this season to inspect the various shows."

In this selection we have only one English raised variety—John Shrimpton. The writer goes on to say "that Mrs. H. Robinson is the most remarkable Chrysanthemum we have, whilst the very finest yellow is E. Dailedouze," yet with us these two varieties are almost failures. Of course, the American standard of excellence is different from ours. In America the blooms are shown in vases of twenty-five and fifty flowers, and foliage is considered almost as much as the blooms. It is essential that this shall be well carried up under the bloom, and perhaps the Americans are right.—W. J. G., *Exmouth*.

THE CHRYSANTHEMUM AUDIT.

THROUGH the medium of the Journal I would like to thank Mr. Molyneux for the vast amount of trouble he has taken in this matter. The audit is very interesting and instructive, but, with your correspondent "D.," I would like to point out some of the peculiarities in connection therewith. The same objection that I raised last year in respect to the novelties I raise this—viz., that only those varieties should be included which have been seen by the voter. I am certain that some varieties are voted for that have never been seen by several who have placed them among the twelve novelties of the year. Last year Duchess of York headed the poll for the twelve novelties, and this year it only just creeps in with the fifty varieties. Mrs. E. S. Trafford and Miss Maggie Blenkiron, which found a place among the twelve novelties, the latter really standing third on the list, do not find a place among the first fifty of this year. On the other hand Mutual Friend, Phœbus, Eva Knowles, and Deuil de Jules Ferry, although shown last season, and which were not mentioned in last year's list, are this time to be found among the best fifty. Mons. C. Molin, Pallanza, Mdlle. de Galhert, and some others which were in very low positions last year, are now gone up in a remarkable manner.

Of this year's selection of the twelve novelties I assert that it could not well be improved on, although several others are worthy of much higher positions than they occupy. By the way, it may not be amiss to caution growers as to the bud to be taken of the beautiful Mons. Chenon de Leché. If taken before the middle of August a poor dull-coloured and worthless bloom will be the result.

"D." suggests that Mons. Panckoucke should have found a place among the novelties, apparently overlooking the fact that it is now considered a standard variety, and stands No. 5 both in the fifty and twenty-four class.

It is surprising to find Duke of York in such a high position in both classes, considering too that good blooms of this, with Van den Heede, Eva Knowles, International, and Richard Dean, have been passed several times by the Floral Committee of the N.C.S. as being unworthy of certificates. I think it quite safe to predict that another season's audit will find International, Duke of York, President Borel, W. G. Newitt, Niveus, Primrose League, and Commandant Blusset in very much lower positions; whilst Beauty of Teignmouth, Phœbus, Boule d'Or, Le Mouche-rotte, Madame Rossin, Baronne de Buffières, Miss Elsie Teichmann, and Theodore Dock will attain much higher ones. Of course, I do not exclude the many splendid novelties of this season, which are bound to find a place among the standard varieties before long.

Perhaps the most remarkable fact in connection with the audit is the omission of one of the finest novelties of the season—viz., Mrs. Briscoe Ironside. This, no doubt, is due to its omission from the various trade catalogues, as Mr. Briscoe Ironside did not decide to part with any of this stock until late in the season.—W. J. GODFREY, *Exmouth*.

NOTES ON SUMMER BEDDING.

No phase of gardening is capable of so much variation and originality as the formation and planting of the flower beds for the summer display. True there are certain local circumstances to be taken into consideration, such as the size of the garden, the distance at which the beds are situated from the dwelling house, the aspect favourable or otherwise. The shelter gained from trees on one side, or the overshadowing from them that is not favourable to the welfare of the plants employed, must not be lost sight of. In the majority of instances, however, the kinds selected for filling the beds and the manner of disposing of them is a matter of individual taste either of the owner or the gardener. The great charm of a flower garden at any season is the introduction annually of as much variety as is possible, both in the selection of the plants and the manner of disposing of them. Surprises in colour, form, and arrangement should meet the eye frequently.

The form of the beds is an important factor in their ultimate appearance. Beds formed to represent intricate figures, shapes, and designs are not favourable to effective planting. No bed gives more satisfactory results than an oblong one with perfectly straight sides and ends. Circular beds are also desirable, as they admit of variety in the design of planting. Beds, large or small, when cut out of grass are much improved by having the edges raised at least 4 inches from the level, all such edgings to be covered with some low-growing plant. *Herniaria glabra* is perhaps the best of all plants for covering such edgings; the peculiar tint of green harmonises perfectly with the grass. *Veronica repens* is also valuable as an edging plant, and thoroughly hardy too. *Sedum glaucum* and *S. Lydium* provide additional contrasts in colour, the glaucous tint of the former and the bronzed appearance of the latter during the winter being pleasing. The more tender or really summer growing plants are somewhat numerous. *Mesembryanthemum cordifolium variegatum* is quite one of the best. *Echeveria secunda glauca*, *Sempervivum tabulæforme*, *S. tectorum*, and *Kleinia repens* are all suitable for edgings.

The methods adopted in forming raised edgings have been discussed in the Journal more than once. Some persons advise the addition or the total employment of cow manure freshly gathered, or well worked clay, to make a square stiff edging; others make the soil thoroughly wet, kneading it together to render it sufficiently adhesive to remain in the desired position. Not one of these methods is in my opinion to be recommended. By having the soil in a suitable condition the formation of raised edges is quite simple. The soil in the bed should be deeply dug and finely broken, removing all stones. Let us assume that the bed to be operated on is oblong in shape, and has perfectly straight sides and ends, and that it is 8 feet long and 4 feet wide. Two boards, 4 feet long and 6 inches wide, will be required. These are placed leaning inwards on edge in a line with the grass edging, which has been cut straight. In the meantime the soil must be removed from the edge of the bed down to the level of the base of the grass, and thrown into a heap in the middle of the bed. Two persons are required in forming the edge. One stations himself on the grass, with his toes close up to the board, keeping it firmly in place; the other places the soil alongside the board, treading it firmly. Whatever the height of the edge, 4 inches to 6 inches, the soil should be placed half an inch or so above. When the edging is high enough and made quite firm the board is gently removed and carefully cleaned for the next length. In the case of circular beds or those with rounded corners, short pieces of board 6 inches wide are employed; these are used on end, three or four pieces being used to afford sufficient treading space.

The best time to make and plant the edgings depends on circumstances. If the beds are not at the present time occupied with spring flowering plants or shrubs, no time should be lost in preparing and planting those in which *Herniaria glabra* is to figure. If the stock of this plant is not large an early start is desirable, as its growth is not fast. The edgings of *Echeveria*, *Mesembryanthemum*, and others more tender cannot be planted until the month of May.

A few remarks about the planting of the beds may not be out of place. The less formality of design in the arrangement the better. *Lobelia cardinalis* Queen Victoria, in a mass with *Begonia* Princess Beatrice, *Blue Ageratum*, *White Viola*, *Sedum glaucum*, or *S. Lydium*, to cover the soil and afford a distinct contrast to the brilliant colour above produces an effect during August and September that only needs to be seen to be admired. A good sized bed thickly planted with

Harrison's Musk, from which rises plants of *Heliotrope Swanley Giant* at a distance of not less than 2 feet apart, with here and there a plant or two of *Ricinus camhodgensis*, *Zea gracillima*, and several clumps of *Gladiolus brechleyensis*, insures a pleasing combination of colour and fragrance. *Lavatera trimestris* growing above a groundwork of *Calceolaria amplexicaulis*, with an edging of *Chamæpeuce diacantha*, alternated with tufts of *Agrostis elegans*, is worth noting.

Tuberous *Begonias* in the flower garden are often spoilt for want of space to enable the foliage and blooms to develop fully. Among the *Begonias* I arrange here and there single stemmed plants of *Eucalyptus globulus*, *Ricinus camhodgensis*, *Achilton Thompsoni variegata*, and *Zea japonica*. Not only do these tall growing plants aid the growth of the *Begonias* during hot and dry weather by affording some slight shade, but they relieve the otherwise flat appearance. All *Begonia* beds should have the soil covered with some low growing plant, such as *Sedum glaucum*, *Herniaria glabra*, *Poa trivialis variegata*, *Lysimachia nummularia aurea*, *Mesembryanthemum cordifolium variegatum*, or *Veronica repens*. Not only are such useful in hiding the soil, but they effect a pleasing contrast to the blooms above, as well as preventing the blooms being splashed by the soil during heavy rains.

Celosias are somewhat uncommon in the flower garden, yet when well managed they create a pleasing effect. Planted in groups of three or five amongst *Fuchsias*, for instance, they look charming. For a bold sub-tropical effect *Gymnothrix latifolia* is a capital plant. The deep green of its leaves is most pleasing. Strong plants put out in good soil will grow 6 feet high in a season. A circular bed 3 feet to 4 feet in diameter, the raised edging planted with *Mesembryanthemum cordifolium variegatum*, with a 3 feet high centre plant of *Dracæna australis* and the remainder of the bed filled with *Coleus Verschaffelti* is a most effective colour combination with simple plants.

Solanum marginatum, silvery, *S. pyracanthum*, brown, are varieties of this family of foliage plants always welcome in a garden where a subtropical effect is prized. *Melanthus major* with its glaucous coloured leaves is another useful foliage plant. Well-grown *Balsams* are seldom seen in the flower garden, yet they are deserving of some attention as they give a profusion of various coloured blossoms. *Salvia patens* and *Gladiolus brechleyensis* over a carpet of white *Violas* is a combination that is generally appreciated.—E. MOLYNEUX.

NERINES.

THE success in the cultivation of *Nerines*, or at least of the garden kinds, depends almost entirely on their being grown in a little warmth during the winter, resting through the summer, and allowed to flower in the autumn. It will be perceived that in this respect *Nerines* differ from the majority of popular bulbous plants, which make their growth in the summer are rested in the winter, and brought into flower in spring and summer. This latter fact has, no doubt, caused many to treat their *Nerines* along with such plants as *Hippeastrum* and *Cohurghia*, with the result that the *Nerines* were a failure. When it is remembered that the *Nerines* are all natives of the Cape, about Table Mountain, the difference between the time when they are most active and the growing season of *Hippeastrum* and other New World bulbs will be easily understood. The same rule applies to the majority of Cape bulbous plants when grown in this country, and although some of them are not so particular as regards the time of growth as others, yet better results are obtained where these plants are allowed to rest in summer and started into active growth again either in winter or very early in spring.

After a *Nerine* has flowered its roots should be examined, and should they be healthy and the soil and the drainage good, it will not be necessary to repot them into larger pots. Many bulbous plants thrive best when root-bound, food being supplied in the form of liquid manure or guano when fresh growth is being made. As the cold weather approaches, or, say, in October, a hotbed should be made up in a frame, dung and leaves being the usual material employed. A layer of cocoa-nut fibre refuse or ashes should be placed on the top of the bed, and into this the *Nerine* pots should be partly plunged. The sunniest possible position should be chosen, so that the plants may have the full benefit of what little sunlight there is in winter. A temperature of about 55° will be quite high enough, though on bright mild days it might rise to 60°. Ventilation sufficient to keep the atmosphere in the frame fresh, and to allow excessive moisture to escape, will be necessary.

Keep the soil moist without watering it to soddenness, and for strong bulbs in small pots, or which have not been repotted for some time, liquid manure, or a top-dressing with some of the patent manures, will be found helpful to vigorous growth. By the time winter is over growth should have been completed, so that the plants may be then gradually hardened by exposure and withholding water. This will cause the leaves to wither. During the summer the plants may be placed on a shelf near the glass in a cool greenhouse or frame, and allowed all the sunshine possible. Water must be entirely withheld. By the end of July the flower scapes should begin to appear, when water will be again necessary, after which the soil may be kept moist and the flowers assisted by supplies of weak liquid manure.

It will be seen that at no period of the year is shade required by *Nerines*; they enjoy all the sunlight they can get, both when growing and when at rest. The soil preferred by *Nerines* is a rich light loam without either sand or leaf mould. The pure loam lasts longer, and preserves the roots and bulbs better when at rest than any other mixture would. Mealy bug sometimes attacks *Nerines*, as it does most bulbous

plants, and it is no easy task to free bulbs of any kind from this pest when once it has gained a footing upon them. The only cure is by removing all the dead scales from the bulbs, and especially from the necks of the bulbs, where the bug lurks in waiting for the appearance of young leaves. A weak solution of petroleum may be used, but care must be taken to prevent it running into the hearts of the bulbs.

The one popularly known as *N. Fothergilli* is a variety of the well-known *N. sarniensis*, or Guernsey Lily, of which, in addition to the above, we have several distinct and beautiful forms, almost all of which are, in all respects, worthy of cultivation. *N. pudica* is a handsome-flowered species, the flowers being large, pure white, except for a streak of red down the middle of each segment. There are several pretty and distinct hybrids in cultivation, so that altogether the genus *Nerine* comprises a goodly collection of extremely useful greenhouse bulbs, which by attention to the particulars mentioned above may be successfully managed by anyone possessing a greenhouse and frame.—GROWER.

CURIOUS FACTS IN PLANT DISTRIBUTION.

MR. W. BOTTING HEMSLEY, F.R.S., writing in "Knowledge," points out that the present distribution of plants, apart from those low in the scale of organisms, exhibits some very curious phenomena. Perhaps those most obvious to the majority of persons are consequent upon the spread of European peoples over other parts of the globe. The domestic weeds of ancient civilisation, the roadside weeds and the corn-field weeds, have accompanied man in his most distant wanderings, and in many instances have developed increased vigour and a power of colonisation unsurpassed by man himself. In some instances the reproduction and spread of these weeds is so rapid as to become a great scourge to agriculture, overrunning and destroying crops almost as effectually as swarms of locusts; and laws have been framed making it compulsory on farmers to keep their land free of these prolific strangers. Sometimes it is a new weed that makes its appearance and propagates itself in this extraordinary manner, advancing from field to field, farm to farm, county to county, and state to state, at an almost incredible pace.

During the last three or four years the so-called Russian Thistle (*Salsola Kali*, var. *tragus*) has been occupying the serious attention of the farmers and legislators of the Eastern and Central States of North America, and it is already the subject of a considerable literature. Thousands of square miles are infested, and the loss resulting therefrom in 1892 was estimated to exceed 2,000,000 dollars. But the object of this article is to direct attention to some of the phenomena of the distribution and existence of plants in nature, uninfluenced and unaffected by man, either directly or indirectly—that is to say, to the latitudinal limits, the altitudinal limits, and other interesting facts of the present distribution of flowering plants.

In the highest latitudes yet reached in the West, in Ellesmere Land and Grinnell Land, between 80° and 83° 6' north latitude, the ground in localities the most favourable to the development of vegetation is carpeted with plants, many of them having brilliantly coloured flowers, produced in great profusion during the short but continuous summer that there obtains. About seventy species were collected within the latitudes named by the naturalists of the last British Polar expedition, and they included such familiar showy plants as *Papaver alpinum*, *Silene acaulis*, *Dryas octopetala*, *Saxifraga oppositifolia*, and *Epilobium latifolium*.

The Austrians found a very different condition of things in the same latitudes in Franz Josef Land, eastward of Spitzbergen. Plants were found, and of the same species, but in an extremely stunted state, with scarcely a flower to be seen, and nowhere was there continuous vegetation a few square feet in extent. In these very high latitudes seed is rarely, if ever, perfected, and plants increase only by vegetative development—suckers, underground stems, and trailing rooting stems. Yet the greatest cold experienced—upwards of 100° (Fahrenheit) of frost—did not impair the vitality of Wheat that had been fully exposed for four winters and four summers. It should be mentioned that none of the plants inhabiting these high latitudes is peculiar to the region; that very few species are confined to the Arctic regions; and that many of them are widely spread in alpine regions of lower latitudes, some even recurring on the mountains within the tropics, and a few reach the southern limits of vegetation.

In the southern hemisphere there are now no flowering ("phanerogamic") plants growing within 35° of the Pole, and countries in as high a latitude as Scotland are absolutely ice-bound. Should there be no error in locality, there is a single known exception. In the Kew Herbarium is a specimen of a Grass (*Aira antarctica*) labelled, "New South Shetland, Dr. Eights." South Georgia, in the American region, and Macquarie Island, in the New Zealand region, may serve to illustrate the Antarctic flora and the southern limits of flowering plants. They are small islands of comparatively slight elevation, and both situated in 54° south latitude. South Georgia is about 1000 miles east of Cape Horn, and nearly as far from the Falkland Islands, the nearest land, except some very small islands concerning the vegetation of which nothing is known. Its exceedingly meagre flora has probably been exhaustively investigated, and the result is a list of thirteen species of flowering plants and no Ferns. Not one of these species is peculiar to the island, and nine out of the thirteen inhabit both the American and Australasian or New Zealand regions.

When we remember that the Antarctic flora now exists only in such isolated and distant fragments we are hardly prepared to find almost the same homogeneity as in the north, where there is practically a continuity of land. Yet so it is; and the only satisfactory solution of the problem is a former greater land connection and continuous flora, probably in higher latitudes than the existing fragments. One of the tasks of Antarctic explorers is to search for fossil remains, which might give a clue to the history of plant life under different conditions.

A noteworthy feature in the small flora of South Georgia is the presence of three northern plants—namely, *Montia fontana*, *Callitriche verna*, and *Phleum alpinum*. Two out of three of these plants are also found in the New Zealand region. As previously mentioned, some northern species extend into the southern hemisphere, but no essentially Antarctic types extend into the northern. The farthest they reach are the Alps of Victoria and the Andes of South America, where a very few outliers occur. Another peculiarity of the highest Antarctic flora is the almost total absence of colour in the flowers, which are, moreover, exceedingly small. Butterflies and bees are also absent, whereas they abound in the north, where showy flowers are found.

THE FRENCH VINTAGE.

THE statistics of one sort and another which French officials are at so much pains to compile, though often unduly long in coming, are, as a rule, models of lucidity, and, so far as it is possible to test the matter, remarkable for their accuracy. Those relating to the vintage of the year have all the merits of most others without the countervailing defect, for, seeing that the vintage is not fairly over before the middle of October, it would be impossible to collect and collate the vast mass of figures which have to be put into shape before a complete return can be made in less than a couple of months. It is therefore only in the last days of the old, or the first of a new year, that the report in question can be issued, and it has not, for some time past, been very pleasant reading for growers of Grapes, seeing that, what with the invasion of the insect known as the phylloxera and other diseases, the area of land under Vine cultivation has been steadily decreasing, and is now about three-quarters of a million of acres less than it was twenty years ago. That was a "record" year in the history of French vintages the yield of the Vine being nearly 2000 million gallons and the quality good withal.

Since then the quantity of wine made in France has, with a few trifling variations, been steadily decreasing up to the year 1893, when, despite the persistent ravages of the insect, for whose extermination a premium of £12,000 has been offered in vain, the magnificent summer produced such a crop of Grapes as sent the total of the vintage up to something like its pristine proportions. Upwards of 1100 million gallons of wine were made in that year, and even in 1894, when the weather was much less favourable, the total fell little short of 900 millions. The prospects of last year's vintage, however, seemed bad from the first, the early part of the summer being cold and wet, and when the burst of warm weather came in the middle of August, it was too late to make up for the deficient quantity, though the Grapes ripened so well that the quality of what wine was made improved immensely. But with all this the vintage is not estimated to exceed 600 million gallons, or only two-thirds of that obtained in 1894, the districts which have fared best being the South-West, which includes Bordeaux and the claret vineyards, and the South-East, around Montfeller, Narbonne, and Perpignan, where the wines are so much heavier that they are largely used for blending—that is a very elastic word, and it will probably be not far from the mark to suggest that the wines of lighter character, which are made in Touraine, Poitou, and other central departments, find themselves "fortified" by admixture with what the French call "les gros vins du Midi."

Then, again, it is worthy of note that France, largely as she produces, is not able to do without foreign wine, for upwards of 100 million gallons were imported last year, as against only 38 million exported, nearly the whole of the imports coming in equal quantities from Spain and Algeria, as the war of tariffs in which France is still engaged with Italy and Switzerland render it practically impossible for wine to be brought in from those two countries. Algeria is making rapid progress as a wine-growing country, for there are over 280,000 acres under cultivation, and the production last year was about 90 million gallons, while, with about half of this sent across the Mediterranean, the remainder is consumed in the colony, though the Arabs are supposed not to touch spirituous liquor of any kind. This practice is not universally observed, but it is believed that even the most hardened of them draws the line at what is called "Algerian brandy." This enjoys much the same character as the wine made at Suresnes, near Paris, of which it is said that "it takes three men to drink a glass: one to imbibe it, and the two others to hold him while he is doing so." The Algerian wine, however, has the merit of being pure juice of the Grape, at all events until it leaves the colony, and the growth of it has already contributed not a little to the prosperity of the North African settlement.

An attempt has been made in France itself to neutralise the ravages of the phylloxera by making "wine" from raisins and from sugar mixed with the lees, and of the 17 million gallons of the former and 39 million of the latter produced last year no small proportion, it is to be feared, will find its way into commerce under quite another description.



FRUIT FORCING.

Peaches and Nectarines—Earliest House.—A night temperature of 50° to 55°, and 60° to 65° by day artificially, with 5° to 10° more from sun heat, especially after closing, will keep the trees in steady growth. Ventilate from 60°, increasing with sun heat, taking care to avoid cold draughts and sudden depressions of temperature, especially after fluctuations, as such cripple the foliage and may cause the fruit to fall. Syringe in the morning and afternoon with water of the same temperature as the house, and always sufficiently early in the afternoon to allow the foliage to become dry before night. On dull days omit the afternoon syringing; also the morning when cold and sunless, damping the paths and border instead. Disbud carefully and in accordance with the growth. Trees that have set heavy crops should have the least promising removed. To help weakly trees liquid manure may be supplied whenever watering is necessary, taking care not to apply it too strong, and only when required.

Second Early House.—Trees started at the new year have set the fruit well; a light syringing occasionally after this is effected assisting the trees to cast off the remains of the petals. Syringe, however, cautiously in dull weather, as it weakens the growth, yet encourages it at the expense of the fruit. Disbud gradually and carefully, not being in a hurry about this, but practising it daily when the fruit is fairly swelling, removing a few growths here and there so as not to give a check to any part, but secure an even balance of vigour. Where there is a thick set of fruit remove the smallest and worst placed by degrees. A night temperature of 50° is safe in severe weather, and 55° by day, 5° more in mild weather, with 5° to 10° rise from sun heat.

Trees Started in February.—The flowers are expanded, and should be fertilised carefully day by day with a soft brush or other contrivance when the pollen is ripe. Shaking the trees answers well in most cases, it being done in the early part of the day, and again about noon. Turn the heat on in the morning to secure and keep a temperature of 50° by day, ventilating from 55°, allowing an advance to 60° or 65° with a free circulation of air, employing fire heat only at night to keep the temperature between 40° and 45°.

Houses to Afford Fruit in Late July and Early August.—The trees and structures usually started about this time are advanced for flowering, the anthers showing clear of the corollas; therefore, syringing should cease, maintaining a genial atmosphere by damping the paths in the morning and early afternoon. A temperature of 50° by day and ventilation from point, having it full at 65°, will meet their requirements, 40° to 45° being ample at night. If the border is at all dry afford a thorough supply of water, repeating as necessary. Where the blossom buds are superabundant remove those on the under side or at the back of the shoots, drawing the hand the reverse way of the growths.

Latest Houses.—The chief consideration in these is to retard the blossoming as much as possible, therefore admit air to the fullest extent, as the already swelling and developing buds will not take any harm from frost until the flowers show colour, and even then there is safety in just excluding frost. Any pruning or arranging of the trees on the trellises should be completed forthwith, supplying water to the border to insure thorough moisture and keeping as cool as possible.

Cherry House.—Ventilation is the measure of success or failure in growing Cherries. A free circulation of air should pass through the house whenever the temperature exceeds 50°, regulating the amount by the conditions of the external atmosphere. Maintain a night temperature of 40° to 45°, and employ fire heat to raise the temperature to 50° by 8 or 9 A.M., preventing it falling below that through the day, turning the heat off at closing time. Fertilise the flowers either by shaking the trees gently or distributing the pollen with a camel-hair brush, feather, rabbit's tail mounted on a stick, or plume of Pampas Grass. Aphides must be kept in check, but it does not answer to fumigate or vaporise whilst the trees are in flower. Spraying with an infusion of quassia chips, however, has no injurious effects on the blossom beyond converting the ripe pollen into paste and preventing fertilisation for the time being. This is not usually disastrous, especially when it is done in the declining part of the day. When the fruit is set and there are aphides, fumigation or spraying with an insecticide must be practised, as nothing less than thorough cleanliness can result in fine clear Cherries. Grubs (so-called) infest Cherry trees. One species rolls itself up in the leaves, and can be destroyed by squeezing; but the other encases itself on the under side of the leaves in a sort of web, and gives the appearance of being scalded. From the leaves it makes its way to the fruit, perforating and destroying the Cherries. The only means of riddance is to examine the trees occasionally and destroy the grubs. Borders must not be allowed to become and remain dry; trees in pots should be frequently examined, and water supplied as required.

Pines.—Suckers should now be started to afford a supply of ripe fruit from about December onwards. The pots most suitable are 5 to 7 inches, according to the size of the suckers. Drain efficiently, use fibrous loam, torn up moderately small, pressing the soil firmly about the base of the suckers, and plunge in a bottom heat of 90° to 95° at the base

of the pots. Roots are usually emitted in from ten days to a fortnight, and until then water is not necessary. If very bright weather prevail slight shading is desirable for an hour or two at midday, and a light syringing through a fine rose will be necessary about twice a week. The temperature should be kept at 55° to 65° by artificial means, with 5° to 10° or 15° rise from sun heat. Any young plants in an unsatisfactory state should be shook out and repotted after disrooting, treating them as advised for suckers. Any stools with small suckers should have the latter left on until May or June, and then be potted. Old plants from which the fruit and leaves have been cut should be placed closely together in any pit having a moderate top and bottom heat, where light and air can be secured so as to insure sturdy suckers.

Fruiting Pines.—With the fruit progressing the plants will require water more frequently at the roots, and should be examined once a week for affording a supply when needed. Recently started fruiting plants must be kept at 65° by night and 70° by day, keeping the atmosphere for these plants and fruiters generally moist by damping the paths, watering as required with tepid liquid manure.

Figs.—*Earliest Forced Trees in Pots.*—The first swelling of the Figs on the trees started in November or December will soon be completed. They remain stationary for some time for flowering, and require careful treatment. Therefore keep the temperature steady, and if mild it may be 60° to 65° at night, but if cold 5° less is safer; 65° artificially by day suffices when cold and dull, 70° to 75° with gleams of sun, and 10° to 15° advance from sun heat will insure steady development without producing weak or elongated growth. Although syringing is necessary to keep down red spider it must not be excessive, for if wet gets in at the eye when open for flowering certain germs will find a nidus on the decay or damage thus set up, and the fruit will decay at the apex instead of finally swelling and ripening. To encourage the swelling of the fruit top-dress with rich compost, renewing at short intervals. Supply tepid liquid manure steadily to the roots, always giving it in sufficient quantity to pass through the pots. Avoid crowding the growths, stopping at the fifth leaf, tying out the shoots as the growth advances and cutting out superfluous shoots, or preferably preventing this by rubbing them off whilst quite young. The fruit, to have colour and flavour, must have full exposure to light and a circulation of rather dry air.

Planted-out Fig Trees.—Disbudding will need to be practised on trees started at the new year, rubbing off all those not required, pinching spurs at about the fifth leaf so as to secure second crop fruit. Train the successional shoots and leaders their full length, stopping only inducing side shoots, and the finest fruit is borne on extensions. Trees in restricted borders will need liberal supplies of nourishment, encouraging roots from the collar by top-dressings of rich compost, extending the material as the roots advance; these can be fed with fertilisers or liquid manure. Syringe the trees twice a day in favourable weather, damping only on dull days.

Young Trees in Pots.—Shift those intended for next year's early forcing, potting firmly. Shade slightly from bright sunshine for a few days, until they show signs of having taken to the new soil, when they should be exposed to light. Pinch the growths so as to insure a sturdy, well-furnished head, training with a single stem of 8 to 12 inches.

THE KITCHEN GARDEN.

Broccoli.—A long continuation of mild weather has been favourable to the production of good Broccoli heads in abundance, and unless a change takes place soon there is every probability of a glut occurring in April. We are far from being safe from destructive frosts as yet—we might even experience another severe blizzard in March—and for this reason a close look out should be kept. The least that can be done is to rather heavily cover any hearts commencing to form with old leaves, snapped off from underneath, while it might prove a wise proceeding to lift and replant a portion of the crop of midseason and late varieties where they can be easily protected. Replanting a portion of the later varieties on cool or north borders would materially retard them.

Sowing Broccoli.—It is a mistake to sow midseason and late Broccoli early in the spring, as in this case the plants are, as a rule, fit for planting before the soil is ready for their reception, and are practically spoilt in the seed beds. Late in April or early in May is soon enough for sowing in most localities. In the case of Veitch's Autumn Protecting and other late autumn varieties early sowing is desirable, and if the plants raised are not given a severe check fine hearts will be had. Seeds may be sown thinly now in either pans, boxes, or frames, gentle rather than strong heat answering best. Let the seedlings have the benefit of all the light and air possible in mild weather, and when well hardened prick out in sheltered border.

Forcing Cauliflowers.—This season there is a likelihood of late Broccoli proving plentiful, and if some of the latter is duly retarded the supply should last till the earliest Cauliflower plants now in hand-lights forwarded are ready to cut. Under these circumstances there is less need to devote a rough frame or pit to forcing Cauliflowers, but the small forcing varieties are of superior quality, and find favour where the coarser Broccoli would not be accepted. If it is decided to forward some in frames or pits form a gentle hotbed at once, making this firm, and covering with not less than 9 inches of good loamy compost. The plants, whether raised in the autumn or early this season, move best out of small pots, and should be planted firmly not less than 15 inches apart each way. Keep close for a few days, afterwards ventilating freely whenever the outer air permits. Hand-lights are also of good service in forwarding Cauliflowers.

Sowing Cauliflower Seed.—If in addition to the forcing varieties

either Dwarf Erfurt or Early London; Pearl or Magnum Bonum; Eclipse or Autumn Giant, are sown and grown, a good natural succession is afforded throughout the season, or say from June to September inclusive. All may be either sown in pans or boxes, and placed in gentle heat to germinate, taking care to keep the plants as dwarf and sturdy as possible. Some may well be placed singly in 2½-inch or slightly larger pots, and these, if kept under glass till well established, then hardened, and planted either in hand-lights or on warm borders, where they ought to be roughly protected for a time, will be the first ready to cut from. Those fine hearts seen at August shows are, as a rule, cut from either autumn or late winter raised plants of Veitch's Autumn Giant; but Eclipse sown now would succeed nearly as well.

Brussels Sprouts.—In order to have extra fine stalks of these the plants must have a long period of growth. Some growers raise plants in the autumn, leaving them in the seed beds till April or May, when they are planted out. Private gardeners, who do not require large numbers of plants, sow seeds in pans, boxes, or frames, as advised in the case of Cauliflowers, pricking out the plants on a sheltered border in April. It ought to be decided now where the principal portion of this important crop shall be grown next season, and the ground early manured and dug, preparatory to planting with short-topped early Potatoes. Arrange the rows of the latter not less than 3 feet apart, and directly the Potatoes are finally moulded up plant out the Brussels Sprouts midway between them. If more seeds are sown in the open any time during favourable weather in March abundance of plants should be available for putting out early in the summer, but these will scarcely succeed so well as those raised earlier. Where old plants have been cleared of their crop of hard sprouts, and are occupying ground wanted for other purposes, lift and replant closely either at one end of the plot they now occupy or a fresh site altogether, and they will produce abundance of greens till late in the spring.

Carrots and Radishes.—With the aid of frames, glazed or otherwise, and mild hotbeds, it ought to be a comparatively easy matter to keep up a good supply of tender young roots of both Carrots and Radishes. Only a shallow hotbed is needed, and if the frames are deep half fill with the heating material, so as to raise the 6 inches of fine light soil placed on the top of it well up to the light. Open shallow drills 8 inches apart for early Horn Carrots, and midway between these draw other drills for Wood's Frame, French Breakfast, or other early Radishes. Water the drills if at all dry, sow the seed thinly, and cover with fine soil. Where glazed lights are scarce these may be taken off, and rough protection substituted directly the Carrots are in rough leaf, or they may be dispensed with altogether and a protection of mats, canvas, or old carpet, be used instead. The Radishes will be pulled before the Carrots require all the space.

PLANT HOUSES.

Panicum variegatum.—Transfer into 5-inch pots plants that were rooted in a small size in September. If the shoots are pegged into the surface after potting they will grow rapidly and become useful for furnishing the front row of stoves and other warm houses. Plenty of cuttings may now be inserted in 3-inch pots filled with sandy soil; they will root quickly if shaded from the sun, kept close and moist under hand-lights in a warm house. Those intended for baskets may be inserted in pans, and then transplanted into the baskets as soon as they are rooted and have been hardened so as to bear exposure in a warm house.

Selaginella caesia.—This is a capital plant for edging when associated with *Panicum variegatum*. It is necessary, however, to place this plant into slightly larger pots than the *Panicum* or it will fail to show an even surface. Plants that have been kept cool may be divided and potted; they grow freely in any moderately light compost, for instance equal parts of loam, leaf mould, and sand. They will start freely in a vinery, or may be placed into a warmer structure until they are ready for the stove, or where they are to be employed when in good condition.

Caladium argyrites.—These may be shaken out and started in small pots in a warm house. It is a good plan to plunge the pots, to prevent watering, and cover the surface with cocoa-nut fibre refuse until growth commences. Other varieties may also be started. It may be pointed out that these beautiful foliage plants, after they are once started, are frequently grown too close and warm. They scarcely bear moving about when grown in warm stove. The conditions of a vinery, when the roof is not overshadowed with foliage and the night temperature can be kept from falling below 60° suits them well. For conservatory decoration we have found them invaluable from the end of June or early part of July. Pot the tubers in a compost of light soil, and finally place them in good loam, one-seventh of decayed manure and sand; a little leaf mould will do no harm.

Achimenes.—Shake these out of the old soil if not already done, and place the tubers thickly together in pans in a compost of loam and leaf mould in nearly equal proportions; add one-seventh of decayed manure and a liberal quantity of sand. Place the pans in heat, and cover with fibre the same as advised for *Caladiums*.

Gloxinias.—Sow seed where an increase in the stock is needed. The surface of the pot or pan should be even and the soil fine, on which the seed can be sown, and then gently water with a fine rose can and covered with a square of glass and shaded. Shake out the tubers of those that have rested and start them in boxes of leaf mould. Those started some time ago will be ready for potting. Good loam, one-seventh of manure and sand will grow these plants well. Plants may rest that

have flowered and completed their growth. Do not hurry them, but allow them to gradually rest. It is a mistake suddenly to withhold water.

Amaryllis.—Plants that have been stored away to rest may be taken out and repotted. It is a good plan to repot these plants annually before starting them into growth. They will do well in three parts loam to one of leaf mould and manure, to which sand is liberally added. After potting plunge them in a low house or pit where they can enjoy gentle bottom heat, such as a bed of leaves and litter affords. A temperature of 50° to 55° top heat will suit them well, with a little air daily in fine weather after growth commences.

Cissus discolor.—Few plants are more ornamental than this for covering pillars and the ends of houses when formed of brick. Train them to the top, and then allow them to hang down naturally. Positions of this nature that are covered with Ferns and Begonias are doubly effective when this free-growing climber is allowed to hang down amongst them. In large houses it is effective in baskets, and can be grown well in them, few plants being more suitable. Prune established plants to the ripe wood, and repot them if they need it or top-dress with rich material. Plants in baskets may have as much soil as possible removed, and equal proportions of loam and manure supplied, but this plant grows luxuriantly in any rich compost.

THE BEE-KEEPER.

MAKING COMB FOUNDATION.

"A LANARKSHIRE BEE-KEEPER," in a recent issue of the Journal, says that he has several times advised amateurs to make their own foundation. I should be very pleased if he would explain how this can be done. I should also like his opinion as to whether disease can be introduced by using foundations purchased from dealers.—F. W.

I cannot say whether disease can be conveyed to a hive through an inferior quality of foundation. Genuine wax is not a nidus for germs, and although boiling kills active germs it does not destroy latent ones; so it is much safer not to use wax of unknown quality. After submitting typhoid germs to boiling water I emptied the bottle, hermetically sealed it, and exposed it for five years to temperatures ranging from several degrees below zero to 100° in the sun, and at the end of that time from one single small condensed drop, reproduced millions of germs in a short time, and that drop was sufficient to impregnate thousands of gallons of milk or albuminous matter.

MAKING COMB FOUNDATION.

The great extent adulteration is carried on in wax makes it desirable for bee-keepers to use that from their own apiaries. Premising that bee-keepers all know how to extract the wax from combs, I need not say anything under that head further than to advise them not to use water containing lime, nor to allow the smallest particle of grease or soap to mix with it. Let all wax-melting utensils be double earthenware moulds steeped in water, which prevents the wax sticking to them. Three-eighths of an inch is a good thickness for the dippers; if thinner they become too hot, and if thicker clumsy to handle. Keep them square on the edges and end; nail little fillets of wood on the upper ends, so that a number may be dipped into the wax at a time without slipping apart. The length of these dippers may vary according to the size of the tank and wishes of the bee-keeper. Beginners are safer to run short lengths, or one single sheet, until they become adepts. At one time I dipped three to four at a time by a simple contrivance like the grip of a crane, above which was a spring balance, which gave me an idea when the sheets were about the right weight. Where two or more breadths of sheets are dipped it will be necessary to cut them to the proper breadth either singly or in piles of a dozen or two; but in all cases a board the proper size, to use as a gauge and to press on while cutting, is necessary.

An oblong shaped dipper, from 3 to 4 inches wide, is the best form, as it holds less wax, and is much quicker melted, but in this the bee-keeper must study his resources and his demands, for although a small tank is preferable at times, a very large one at others may be advantageous. It is preferable to have the tanks filled with wax only, as when water is used it is liable to become too hot, which prevents the sheet caking. In addition to the dipping tank, two other coppers or tins are required for the purpose of melting wax to feed the dipping tank. These two vessels act as one, an inner and an outer one—glue-pot fashion. The inner one is tapered, and serves the purpose of purifying the wax after it has been rendered from the combs. This must be set aside after the wax has been melted, and the inner one allowed to remain in the outer one takes a long time to cool, and ought to be scraped just before becoming cold. A good tool for the purpose is a

plumber's or plasterer's shave hook, which is also useful for scraping hives and frames.—A LANARKSHIRE BEE-KEEPER.

(To be concluded.)

SEASONABLE NOTES.

SEVERE frost at night, and cold easterly winds by day have prevailed during the past week, the lowest temperature registered being 13° of frost. This has had the effect of confining the bees to their hives. But on the evening of the 28th inst. the wind veered round to the south-west, being accompanied with a steady downpour of the much needed rain, which has continued for the past twenty-four hours. This will doubtless be followed by open weather again. Although the two extremes of temperature will have no disastrous effect on the bees, the low temperature experienced will be very beneficial to vegetation generally in checking the advanced growth.

It is not advisable to interfere with the bees more than is really necessary, but care should be taken that all are supplied with the necessary stores, as with the advent of March the brood nest will gradually expand, and colonies that are headed by young fertile queens will increase rapidly, and eventually prove profitable to the bee-keeper when the honey flow comes.

It is the weak stocks that are headed by old worn-out queens that show the first signs of spring dwindling, which is often so disastrous. I have experienced the same failing with late hatched queens, although the weather was favourable for them to be fertilised, after which they have filled several frames with brood in the autumn. These often succumb the following spring. This is disappointing to the bee-keeper, and when it happens it is advisable to unite them to stocks that are prosperous. The best queens are those that are hatched not later than June, these invariably doing well.

Straw skeps that are short of stores may have a cake of candy placed over the hole at the top, pressing it well down to prevent the loss of heat from the brood nest, and if well covered the bees will be safe for a few weeks until the weather is warm enough to feed them with syrup.

Some very weak colonies in skeps that I experimented with last year were treated in this manner, and from each I obtained a strong swarm and cast. These were placed in frame hives, and although the season was very indifferent in this locality they stored a good surplus of honey.

A few days ago a bee-keeper was bewailing to me the loss of two stocks out of three kept in straw skeps, owing to the mice gaining an entrance, consuming the honey and destroying the combs, the bees being all dead. Owing to the hives being situated in close proximity to a stack yard the entrances had been reduced; but the mice had eaten their way through at the back of the skeps, so were not discovered for some time. In one a colony of mice had made its home, and steps were at once taken to trap them, with the result that upwards of fifty were caught in ten days. This is no doubt an exceptional case, and could not have happened with a wooden hive. It, however, shows the necessity of keeping a strict watch for these and other enemies throughout the winter.

—AN ENGLISH BEE-KEEPER.

TO CORRESPONDENTS

* All correspondence should be directed either to "THE EDITOR" or to "THE PUBLISHER." Letters addressed to Dr. Hogg or members of the staff often remain unopened unavoidably. We request that no one will write privately to any of our correspondents, as doing so subjects them to unjustifiable trouble and expense.

Correspondents should not mix up on the same sheet questions relating to Gardening and those on Bee subjects, and should never send more than two or three questions at once. All articles intended for insertion should be written on one side of the paper only. We cannot reply to questions through the post, and we do not undertake to return rejected communications.

Shortening Plum Growths (J. B.).—By thinning out the growths and cutting back the branches to within 6 inches of their base you will secure much stronger growths provided you cut back to wood buds, and when these have started reducing the number of growths, so as to have them a good hand breadth or more apart and so disposed as to form a good head.

Quantity of Superphosphate and Muriate of Potash for Standard and Bush Apple Trees (Highgate).—You do not state the size of the trees, but that does not matter, as you may use a mixture of three parts superphosphate and one part muriate of potash at the rate of 3 or 4 ozs. per square yard from the stems of the trees outwards to 1 foot beyond the spread of the branches. Trees vary considerably in size, even those of the same age, and that must be taken into consideration. You may add half a part sulphate of magnesia to the mixture with advantage.

Protecting Delphinium formosum (Inquirer).—This hardy perennial does not require any protection, but during severe weather following a mild period it may be desirable to afford a covering of light dry material temporarily, so as to protect the tender growths from frost at night and sun in the morning, which is often as disastrous as the frost; otherwise sheltered plants are often the tenderest and better without anything, but a mulch of some kind during the winter, some using ashes as a safeguard against slugs, and others a covering over the crowns of leaf mould or short partially decayed manure.

Size of Tennis Lawn (Idem).—There is no orthodox size for a lawn tennis ground, but it should not be less than twice the length of the width of the net, which is usually 36 feet or 42 feet wide, and it is better to have too much rather than too little room; hence 30 yards and 18 or 20 yards wide is preferable to a lawn only just large enough; looking much better and being pleasanter for all concerned. A full-sized tennis "court" is 78 feet long and 36 feet wide.

James' Intermediate Carrot Rotting (E. T. H.).—The most likely cause is the damp, they not keeping well when stored in a place where they cannot get air, especially when the surroundings are moist. When one starts rotting the others soon follow, the decay being accelerated by various ferments, due to bacteria and fungi, and the whole soon become a decayed mass. Had you put them away quite clean and dry, also in clean and dry sand, they would probably have kept much better. Frequently they are damaged in lifting, and decay is the consequence. Beetroot, as a rule, keeps much better than Carrots and to a much later period, a little damp not doing any harm, but is needful to keep the roots plump.

Sowing Portulaca Seeds (E. B.).—Being half-hardy annuals, the seeds should be sown in pans or boxes from the middle of March to the beginning of April, preferably the latter time, using a compost of two parts loam, one part leaf mould, and half a part coarse sand, placing in a frame with a gentle heat, keeping close until up, then admit air moderately, and grow on near the glass. When large enough to handle, they may be pricked an inch or two apart in boxes, or preferably placed in two or three in small pots, shading from bright sun until established, and growing on in the frame until bedding out time—the end of May or beginning of June—when, being well hardened, they may be planted out where they are to flower, which should be a sunny situation.

Heading Down Apple Trees for Regrafting (A. J.).—It is generally desirable to head old Apple trees while the sap is quite dormant, so as to facilitate the work of grafting at the proper time. When the heading down is done at the time named the ascending sap cannot rise into the limbs, but in consequence of their removal the sap is concentrated in the stump, and when this is well up grafting is easily effected. Of course it is necessary to cut the limbs afresh, but that is much sooner done than cutting off a limb or limbs, while there is a certainty that the sap will flow freely, and a junction be speedily effected. As you have been thoroughly successful there is no need to change, and we simply give what we find the most expeditious practice, which has not been adopted without careful consideration and trial of both methods.

Spraying Apple Trees for Apple Scab (A. W.).—The Canadians are cuter even than their neighbours, but neither growers in the Dominion of Canada nor in the United States tells us that Bordeaux mixture at the strength they have previously recommended is not only a cure for Apple scab, but a certain means of destroying the foliage and crop in England. The Apple foliage is very easily injured and the fruit "pitted" by Bordeaux mixture. A 1 per cent. Bordeaux mixture is quite as strong as safe to use on Apple trees after the foliage is fairly developed, and in the early stages it is safer to use a half per cent. solution, which, if evenly distributed (that is half the battle), is as good as a stronger mixture for preventing the disease. It is always wise to ascertain the safe strength at which to apply the mixture by experiment on a few growths before using it on a large scale. As regards the Potato disease, experience shows that there is little immunity where a 1½ per cent. Bordeaux mixture is used, at least, in this country. In what way spraying with caustic soda and potash is more troublesome than other methods, and how it is expensive in proportion to the cleanliness effected, we are unable to comprehend. It has long been proved profitable where benefit through immunity from insects and overgrowth of lichen and moss is taken into consideration.

Names of Fruits.—Notice.—We have pleasure in naming good typical fruits (when the names are discoverable) for the convenience of regular subscribers, who are the growers of such fruit, and not collectors of specimens from non-subscribers. This latter procedure is wholly irregular, and we trust that none of our readers will allow themselves to be made the mediums in infringing our rules. Special attention is directed to the following decision, the object of which is to discourage the growth of inferior and promote the culture of superior varieties. In consequence of the large number of worthless Apples and Pears sent to this office to be named, it has been decided to name only specimens and varieties of approved merit, and to reject the inferior,

which are not worth sending or growing. The names and addresses of senders of fruit or flowers to be named must in all cases be enclosed with the specimens, whether letters referring to the fruit are sent by post or not. The names are not necessarily required for publication, initials sufficing for that. Only six specimens can be named at once, and any beyond that number cannot be preserved. They should be sent on the first indication of change towards ripening. Dessert Pears cannot be named in a hard green state. (Fruitman).—1, Hazwell Souring; 2, Waltham Abbey Seedling. (G. N.).—The Pears were too much decayed for naming; the Apples were—1, Cox's Orange Pippin; 2, Blenheim Orange; 3, not known, probably local; 4, Winter Russet. (J. C.).—1, Dumelow's Seedling; 2, Tower of Glamis; 3, Yorkshire Greening. (G. F.).—Golden Pippin.

Names of Plants.—We only undertake to name species of plants, not varieties that have originated from seeds and termed florists' flowers. Flowering specimens are necessary of flowering plants, and Fern fronds should bear spores. Specimens should arrive in a fresh state in firm boxes. Slightly damp moss, soft green grass, or leaves form the best packing, dry wool the worst. Not more than six specimens can be named at once, and the numbers should be visible without untying the ligatures, it being often difficult to separate them when the paper is damp. (W.).—Veltheimia viridifolia. (L. S.).—1, Dendrobium nobile; 2, D. luteolum; 3, Cymbidium eburneum. (C. W.).—The scraps sent render identification impossible; send fresh ones well packed, and we will assist you. (Inquirer).—Bignonia triphylla.

TRADE CATALOGUES RECEIVED.

H. Cannell & Sons, Swanley.—*Floral Guide*.

Cooper, Taber, & Co., Ltd., Southwark Street, S.E.—*Agricultural Seeds*.

Dobie & Mason, 22, Oak Street, Manchester.—*"Reliable" Farm Seeds*.

J. Veitch & Sons, King's Road, Chelsea.—*Agricultural Seeds*.

Robert Veitch & Son, Exeter.—*Agricultural Seeds*.

COVENT GARDEN MARKET.—MARCH 4TH.

MARKET very quiet.

FRUIT.

	s.	d.	s.	d.		s.	d.	s.	d.
Apples, per bushel	2	0	to	4	6	Peachos, Cape, per case ..	8	0	to 10 0
" Nova Scotia, barrel	13	0	to	20	0	Pears	8	0	10 0
Grapes, per lb.	1	3	to	3	0	St. Michael Pines, each ..	2	0	6 0
Lemons, case	11	0	to	14	0				

VEGETABLES.

	s.	d.	s.	d.		s.	d.	s.	d.		
Asparagus, per 100	6	0	to	6	6	Mustard and Cress, punnet	0	2	to	0	0
Beans, per lb.	0	6	1	3	Onions, bushel	3	6	4	0		
Beet, Red, dozen	1	0	0	0	Parsley, dozen bunches ..	2	0	3	0		
Carrots, bunch	0	3	0	4	Parsnips, dozen	1	0	0	0		
Cauliflowers, dozen	2	0	3	0	Potatoes, per cwt.	2	0	4	0		
Celery, bundle	1	0	0	0	Salsify, bundle	1	0	1	6		
Coleworts, dozen bunches	2	0	4	0	Seakale, per basket	1	3	1	6		
Cucumbers, dozen	4	0	8	0	Scorzoneria, bundle	1	6	0	0		
Endive, dozen	1	3	1	6	Shallots, per lb.	0	0	0	0		
Herbs, bunch	0	3	0	0	Spinach, pad	0	0	4	6		
Leeks, bunch	0	2	0	0	Sprouts, half siv.	1	3	0	0		
Lettuce, dozen	1	3	0	0	Tomatoes, per lb.	0	6	0	9		
Mushrooms, per lb.	0	6	0	8	Turnips, bunch	0	3	0	0		

PLANTS IN POTS.

	s.	d.	s.	d.		s.	d.	s.	d.		
Arbor Vitæ (golden) dozen	6	0	to	12	0	Ferns in variety, dozen ..	4	0	to	18	0
Aspidistra, dozen	18	0	to	36	0	Ferns (small) per hundred	4	0	to	6	0
Aspidistra, specimen plant	5	0	to	10	6	Ficus elastica, each	1	0	to	7	0
Azalea, per dozen	18	0	to	36	0	Foliage plants, var. each	1	0	to	5	0
Cineraria, dozen pots ..	6	0	to	12	0	Genista, per dozen	9	0	to	12	0
Cyclamen, dozen pots ..	8	0	to	15	0	Hyacinths, dozen pots ..	6	0	to	12	0
Daffodils, dozen pots ..	6	0	to	9	0	Lycopodiums, dozen	3	0	to	4	0
Dracæna, various, dozen ..	12	0	to	30	0	Marguerite Daisy, dozen ..	6	0	to	9	0
Dracæna viridis, dozen ..	9	0	to	18	0	Myrtles, dozen	6	0	to	9	0
Ericas, various, per dozen	9	0	to	24	0	Palms, in var., each	1	0	to	15	0
Eunonymus, var., dozen ..	6	0	to	18	0	„ (specimens)	21	0	to	53	0
Evergreens, in var., dozen	6	0	to	24	0	Tulips, dozen pots	6	0	to	8	0

AVERAGE WHOLESALE PRICES.—OUT FLOWERS.—Orchid Blooms in variety.

	s.	d.	s.	d.		s.	d.	s.	d.		
Acacia or Mimosa (French)					Narcissi, var., doz. bunches	0	9	to	2	0	
per bunch	0	9	to	1	6	Orchids, various, doz. blms.	1	6	to	12	0
Anemone (French), dozen					Pelargoniums, 12 bunches	6	0	to	9	0	
bunches	2	0	to	4	0	Primula (double), dozen					
Arum Lilies, 12 blooms ..	2	0	to	4	0	sprays	0	6	to	1	0
Asparagus Fern, per bunch	2	0	to	4	0	Roses (indoor), dozen ..	1	0	to	2	0
Azalea, dozen sprays ..	0	6	to	0	9	" Tea, white, dozen ..	2	0	to	4	0
Bouvardias, bunch	0	6	to	1	0	" Yellow, dozen (Niels)	3	0	to	6	0
Camellias, dozen blooms ..	0	9	to	1	6	" Red, dozen blooms ..	3	0	to	8	0
Carnations, 12 blooms ..	1	0	to	3	0	" Safrano (English),					
Cyclamen, dozen blooms ..	0	3	to	0	6	dozen	1	6	to	3	0
Daffodils, single, doz. blms.	1	6	to	2	6	" Safrano (French), per					
" double, doz. blms. ..	0	4	to	0	9	dozen	1	6	to	2	0
Eucharis, dozen	3	0	to	4	0	" Pink (French), per doz.	3	0	to	4	0
Gardenias, dozen	4	0	to	9	0	Smilax, per bunch	5	0	to	9	0
Geranium, scarlet, doz.					Snowdrops, dozen bunches	0	6	to	0	9	
bunches	4	0	to	6	0	Stephanotis, dozen sprays	6	0	to	9	0
Hyacinth (Roman) dozen					Tuberose, 12 blooms ..	0	6	to	1	0	
sprays	0	4	to	0	9	Tulips, dozen blooms ..	0	6	to	1	6
Hyacinths, dozen spikes ..	2	0	to	4	0	Violets Parme (French),					
Lilac (French) per bunch	3	0	to	5	6	per bunch	4	0	to	5	0
Lilium longiflorum, twelve					" Ozar (French), per						
blooms	2	6	to	4	0	bunch	2	0	to	3	0
Lily of the Valley, 12 sprays	0	6	to	1	0	" Victoria (French),					
Maidenhair Fern, doz. bchs.	4	0	to	8	0	12 bunches	1	0	to	2	0
Marguerites, 12 bunches ..	2	6	to	4	0	" English, 12 bunches	1	0	to	2	0



THOSE WRETCHED POTATOES.

"HOPE springs eternal in the human breast," so says the poet, and notwithstanding an infinite capacity for grumbling, the British farmer's bosom contains an almost endless store. Happily so, for his faith in the future is ever being put to the rudest of tests.

When, as our own knowledge can testify, good Potatoes can be bought by, nay, are actually pressed on, dealers at the following prices on rail in South Lincolnshire—Bruce, Fen, 19s.; ditto Selts, 25s.; Abundance, 22s. 6d per ton; we may well ask, Are they worth planting? But already the planting of Potatoes is in full swing, and whatever the outcome may be, the tubers, at any rate as regards an important acreage, will have a full month's, or may be five weeks', start as compared to last season. This should result, bar May frosts, in an appreciable increase of bulk, experience having proved many times that early planting has this effect. The crop, however, is more liable to supertuberation, with a consequent deterioration in quality.

We are only referring to field crops, and more particularly midseason or late varieties. Maincrop Potatoes planted early will appear above the ground only a day or two sooner than those planted early in April, but the tubers will not have been lying idle all the time.

Growers of Hyacinths and similar bulbs know how important it is to give the roots time to establish themselves before the flowers are forced; so with the Potato, where heavy crops are sought for get them in early, give the roots time to grow first, then when in due course the top appears you will have a perfect plant, which, like a well-made machine, will turn you out the perfect result for which you have striven.

But there is the foundation on which to work—the soil. Any free working or loamy soil will grow Potatoes, but if it be too dry—i.e., liable to drought, only early kinds for hamper work should be attempted. To lay the foundation of a heavy crop deep cultivation is a *sine qua non*; a drilled plough which can turn over the soil 10 inches deep, with three horses as motive power, is excellent for the purpose.

If the farmyard manure be spread and ploughed in during the winter a great saving of labour at a pressing time will have been effected.

We are now ridging land so ploughed and it is in beautiful condition, the manure well incorporated with the soil. Twenty-eight inches is a good average width for the ridges, but this may be varied according to the kind planted, all strong growers, such as "Bruce," requiring plenty of room.

Then the wheels of the machine must be greased. How much depends on the course that has been followed. Our practice has been to make Potatoes follow Clover, either mown or pastured. We have applied 3 cwts. of kainit per acre to the Clover the previous spring with very marked effect on the succeeding crop. To this we have added 3 cwts. of superphosphate at planting time on the ridges and 2 cwts. of sulphate of ammonia per acre (sometimes three), hoed in when the haulm is about 3 inches high. Care should be taken only to sow this when the leaves are quite dry, or the effect may be like that of a sharp frost.

When Potatoes are grown after a white crop, a larger supply of nitrogen is necessary. With twenty loads per acre of good manure 2 cwts. of sulphate of ammonia may be sufficient, but 3 or 3½ may be used if only a small quantity of manure is available. The supplies of phosphoric acid and potash, however, must be made to balance the nitrogen, and therefore 3 or 4 cwts. of kainit with 4 cwts. of superphosphate should be split in with the sets.

On naturally rich and fertile soils less ammonia and more phosphate may prove the most profitable. No hard and fast rules can be laid down, as land varies so much, but we are writing from a considerable experience of light land.

The following dressing will give a fair crop of Potatoes on average land without farmyard manure:—

QUANTITIES IN HUNDREDWEIGHTS, PRICE PER HUNDREDWEIGHT, AND COST PER ACRE.

Quantities per acre.	Price per cwt.		Price per acre.	
	s.	d.	£	s. d.
Sulphate of ammonia, 4 cwts. ...	9	6	1	18 0
Kainit, 4 cwts. ...	2	1½	0	8 6
Superphosphate, 5 cwts. ...	2	0	0	10 0
Total ...			£2	16 6

Compare results of this with results from twenty loads per acre of fair farmyard manure and we should venture to prophesy that "muck" would get the worst of it. Personally we prefer a moderate admixture of manure and chemicals to an exclusive use of either, a mixed diet being good for roo's as well as for animals.

It is very important to thoroughly understand the characteristics of the different varieties when manuring Potatoes, some being improved by a quantity which would ruin others. We propose to refer to this in dealing with varieties in another article.

WORK ON THE HOME FARM.

As the days lengthen and the sunshine increases, care must be taken not to overdo the young cattle with rich foods. A diet suitable for cold frosty weather will often produce splenic apoplexy when there is a change to warmth, and where other foods are plentiful cake and corn may be saved altogether, and the young stock progresses quite fast enough without them.

Highly fed sheep are very liable to turn lame about this time. A little flowers of sulphur mixed with the artificial food twice a week will generally prove a prevention much cheaper and easier than any cure.

At last has come a slight check—cold N.E. winds, with frost, and the sky, judging from appearances, gives one the idea of snow not far distant. Be it snow or rain, we need moisture of some sort. Dykes are dry that usually run till midsummer, and there seems poor prospect of springs rising much this season.

Just now our thoughts are turned much in the direction of labour. Masters and men have now to decide on their movements for next year. Garthmen and general labourers seem pretty plentiful, but there is a dearth of shepherds who know their work and can do it. Of shepherds the great complaint is that they are so "shifty" about the bits of work that come really into their province, but are not actually sheep. To them more than to any other class of farm labourer beer seems so attractive, and a steady hard-working shepherd who knows and will do his duty is a person of great value, and can command a really excellent wage.

There is a movement on foot to extend technical education to shepherds; in fact in East Suffolk classes of this kind have been in operation since 1893. The attendances have included flock masters as well as shepherds, and the teaching has been fully appreciated. The course comprised lectures on the management of the flock, young sheep, with the special diseases affecting sheep. The series wound up with practical demonstration, and a healthy and a diseased sheep were submitted to a post-mortem examination. If the sons of farmers would interest themselves individually in such work we should hear less of incapable shepherds and of fewer losses among sheep.

METEOROLOGICAL OBSERVATIONS.

CAMDEN SQUARE, LONDON.

Lat. 51° 32' 40" N.; Long. 0° 8' 0" W.; Altitude 111 feet

DATE.		9 A.M.				IN THE DAY.				Rain.	
1896. February.		Barometer at 32°, and Sea Level.	Hygrometer.		Direction of Wind.	Temp. of soil at 1 foot.	Shade Tem- perature.		Radiation Temperature		
			Dry.	Wet.			Max.	Min.	In Sun.		On Grass.
		Inchs.	deg.	deg.		deg.	deg.	deg.	deg.	Inchs.	
Sunday	.. 23	30.324	32.9	31.1	N.	40.5	41.2	28.2	71.9	24.0	—
Monday	.. 24	30.482	30.1	29.7	N.E.	38.8	41.2	26.6	73.1	23.1	—
Tuesday	.. 25	30.356	31.2	30.6	N.E.	37.6	35.0	25.1	62.1	21.4	—
Wednesday	26	30.079	28.9	27.5	N.	36.8	35.9	23.2	60.9	19.8	—
Thursday	.. 27	30.265	35.2	33.0	N.W.	36.1	47.8	29.2	79.2	28.7	0.013
Friday	.. 28	30.158	47.0	46.3	W.	36.9	56.4	35.1	85.1	32.0	0.010
Saturday	.. 29	30.133	45.9	44.6	S.W.	39.1	53.8	44.3	59.6	38.9	0.037
		30.257	35.9	34.7		38.0	44.5	30.2	70.3	26.8	0.060

23rd.—Bright sunshine all day; clear cold night.

24th.—Bright sunshine almost throughout.

25th.—Overcast morning; generally sunny in afternoon.

26th.—Generally overcast, but gleams of sun about noon.

27th.—Fine, and generally sunny day; a little rain in evening.

28th.—Dull and drizzly early, frequently sunny after 10 A.M.

29th.—Overcast, with frequent showers.

The coldest week this year, although it included two warm days. The rainfall is still very small, very little more than 1 inch in the two months.—G. J. SYMONS.

DANIELS BROS.

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NORWICH,

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	Per doz.
CHRYSANTHEMUMS, Japanese and incurved, choice sorts from our splendid collection, per 100, 21s., six for 2s. ..	3 6
" Six grand new Exhibition varieties ..	3 6
DAHLIAS, Show, Fancy, and Cactus flowered from our superb collection, six for 2s. 6d. ..	4 6
" Select Exhibition varieties, six for 3s. 6d. ..	6 0
" Salisbury White, the charming new pure white Cactus, splendid for cutting, each 1s., three for 2s. 6d. ..	
" Six grand new Cactus varieties of 1895. A splendid set, 10s. ..	
" Three superb decorative varieties, including Grand Duke Alexis ..	2 6
" Pomponc. new and select varieties, six for 3s. 6d. ..	6 0
FUCHSIAS, single and double-flowered, including all the finest sorts, six for 2s. 6d. ..	4 6
" Six grand new and select varieties, including Princess May ..	3 6
PELARGONIUMS, Single-flowered, Zonal. A very fine collection, all Autumn struck, six for 3s. 6d. ..	6 0
" Six grand new varieties, Pearson's, 7s. 6d. ..	
" Double-flowered, Zonal, very choice sorts, six for 3s. 6d. ..	6 0
" Ivy-leaved double, charming varieties for pots, hanging baskets, &c., six for 3s. 6d. ..	6 0
" " Queen of Roses. The magnificent new magenta crimson, each 1s. 6d., three for 4s. ..	
CARNATIONS, Hon. J. Lowther, grand scarlet, self, each 1s. 6d., three for 4s. ..	
" Mrs Thornhill, beautiful salmon pink, 1s., three for 2s. 6d. ..	
" Choice named sorts, six for 3s. 6d. ..	6 0
OXLIP, Prince of Orange, immense heads of orange yellow flowers, a gem, each 9d., three for 2s. ..	

LILIUM AURATUM.

	Per doz.
LILIUM AURATUM, Splendid Bulbs, 9 to 11 inches circumference, six for 4s., twenty-five for 14s., 50 for 26s., per 100 50s. ..	7 6
" " Grand Selected Bulbs, 11 to 13 inches, six for 6s. 6d., twenty-five for 21s., or ..	12 0
" " Rubro-Vittatum, most beautiful variety, each 2s. 6d., three for 6s. 6d. ..	24 0
" Melpomene (speciosum) beautiful crimson spotted, splendid for pots, each 9d., three for 2s., 25 for 14s. ..	7 6

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2s. worth of Chrysanthemums post free.	
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WALLFLOWERS, Double German, mixed, 1s. 6d. dozen, car. paid.	
WALLFLOWERS, Single crimson, mixed, 1s. dozen, car. paid.	
WALLFLOWERS, Single yellow, mixed, 1s. dozen, car. paid.	
AURICULAS, finest Alpine, mixed, 2s. dozen, carriage paid.	

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Journal of Horticulture.

THURSDAY, MARCH 12, 1896.

THE HORTICULTURAL OUTLOOK.

ONE broad, though necessarily brief, comprehensive view of the present should, I think, yield some measure of satisfaction—some pleasure to those interested. In spite of being hedged about by certain difficulties we may for the nonce overlook these, and note what is going on around us, even beyond in the dim perspective of the future. It is a relief to momentarily close our eyes on our own little world and open them on the vast field of gardening in all its branches. What a wide and ever-widening field it is, and how many and earnest are the tillers.

Reducing the subject, for present purposes, to three heads—viz., fruit, vegetables, and flowers—what do we see, and what may we hope for? Is it not a happy augury of the times that equal attention is now given to all phases of horticulture; and that, as we progress, there is less and less opportunity for Dame Fashion to fictitiously favour any particular product to the detriment of another, or eventually of itself? It is owing to this capricious ruler that various subjects have been relegated to an obscurity they ill deserved; yet this pertains more directly to the floral world than to the more practical—of the good things of our lives and times—the fruits and vegetables.

If we can or do place one of these subjects above another, from its importance and the attention it claims, then is the fruit first and foremost. Slowly but surely are Britons being educated into a fruit-consuming nation, and are, in fact, now ready to eat anything the gardening community can place before them, provided that the article is worthy of their attention and within their means. This it is our interest to do—to supply their wants and provide them with that variety which is charming. That this is not yet accomplished is witnessed by the considerable margin yet open for foreign imports. Is it not certain that this margin would be considerably larger than it is if our Transatlantic cousins improved on the methods of preserving their products by the use of glass or delf receptacles in lieu of tin cans? Why then cannot we adopt them, and preserve our produce as well as they preserve theirs?

It is but a matter of recent date that we

No. 2476.—VOL. XCIV., OLD SERIES.

looked with some envy upon foreign produce, provocative thereby of invidious comparison between our own and other climates. We knew not then the capabilities of our much maligned British climate, or we were ignorant of our own powers. Such is not the case now in viewing the superb examples of home production, not only so good to the eye, but incomparably superior in flavour. If there is anything found or felt to be deficient in either respect be sure we shall obtain it, or know the reason why. That is the spirit of the times, and makes the outlook clearer, more hopeful, and more encouraging. Let us keep the spirit active, and then a way will be found to a better future.

How patiently, yet how persistently our teachers are telling us the reason why this man has succeeded; why that crop has failed; why the tip-top price in the market is rewarding some whilst others cannot live, and why there is such difficulty in placing their products before the consumer. The latter are disagreeable facts to face, but it is better to meet them—to know that we can produce the best, and that for this remunerative prices are obtainable. It is both pleasant and satisfactory to observe that one railway company at least is endeavouring to become a more facile medium between producer and consumer. Respecting imports, is it not a fact that we are becoming, as a nation, such confirmed fruit eaters that, when our supply fails, the imported article is required as a necessity of life?

With the more prosaic yet scarcely less important vegetables we have a vision of possibilities in store in the supply of dried or preserved produce for which a demand already exists. The requirements of the Navy should form no inconsiderable item under this head, and a demand may also grow from cottage to mansion when the various uses to which this cleanly, handy and portable form commends itself become known. This claims our serious attention, and no doubt will receive it, its importance as yet having not been seriously forced upon us.

From a private gardener's point of view the demand for and supply of cut flowers in the open market would be surprising if we were not kept *au courant* with the manner in which these are produced and supplied. Cheaper to buy than to grow is an unwelcome truth forced upon many gardeners, at least on those who are expected to grow and not to buy. Various enlightening articles have lately been published pertinent to this question, one at least having forced a new want upon the gardener. This is refrigerated Lily of the Valley crowns. Is there any just cause or impediment debarring us—private growers—from sharing the benefits of the new and novel procedure? I think not, and no doubt the demand has but to be made and refrigerated roots will be supplied from or by the medium of our enterprising nurserymen.

Chrysanthemums, Roses, hardy plants, Orchids, no lack of interest in these or a thousand treasures of the floral world. All improved and the improvement ever going on on a sound healthy basis. Is not that true? Then let us press on with knowledge and persevering industry, and whatever the horticultural outlook may be now, it will grow brighter by our efforts, and—let it be remembered, by them alone.—A WORKER.

EPISODES IN VINE GROWING.

JUDGING by the weekly contents of the *Journal of Horticulture*, it is not difficult to arrive at the conclusion that there is an unabated, if not a growing interest in all that relates to Vines and Grape culture. Notwithstanding the fact that for the last half century this has been one of the most fertile subjects for horticultural penmen, it is neither to be wondered at nor regretted that it should continue to be fertile of discussion now and for the future.

Few if any crop bulks so extensively in the hothouses of this country as that of the Grape, and few subjects have been treated of by so many able horticulturists. No doubt the result of the much that has been written and the various systems advocated has been a distinct improvement in the aggregate of the Grapes now produced; yet it may be asserted, on the very strongest grounds, that there were as accomplished Grape growers, and as express

ones too, more than fifty years since as there are to-day. Especially does this apply to the production of Grapes to ripen in the spring months, and this too at a time when appliances were not by any means so efficient as they are now; but then the expense at which Grapes were ripened so early, looked at from a commercial standpoint, would never answer now, nor with the long-keeping varieties of Grapes that have come to the front is such early forcing needed.

Prices in those days were such as need never be hoped for again. I had something to do with the production of a crop of Grapes that ripened in February nearly forty years since that were all purchased by a London fruiterer at 25s. per pound, and retailed at nearly double that price. Some of the early forcers of Grapes in my recollection round London in the early forties sent their Grapes in spring into Covent Garden on men's heads, and realised 18s. and 20s. per pound for Black Hamburg.

Some of the feats of Grape growers in the rather far back times were quite as "express" and daring, if not more so, than those recently related in these columns. To justify that remark and it may be interest and instruct some of the rising generation, I will instance one or two cases. Dr. Lindley, in the "Gardeners' Chronicle," relates a conversation that took place between a Norfolk gentleman and his newly appointed gardener at Christmas: "Gardener, we have no Grapes nor vinery to grow them in; how soon can we have some if I have a vinery built as soon as possible?" "You may have plenty by next Christmas." "What! can I have a vinery built and a crop of Grapes in less than twelve months?" "Certainly, sir." The gardener's promise was fulfilled. To the greater number of Grape growers this may appear an easy task. So it would have been had the gardener purchased fruiting Vines in pots. He did not do that, however, but planted Vines in the ordinary way in April, ran up good rods and ripened fruit on them within the time specified. So much for the express of "long ago."

As an example of what I have termed "daring methods," this instance was related by the late Mr. Robert Fish in this *Journal* many years since. The practitioner was—I fear I must say—the late Mr. McDonald, then of Woodstock Gardens, Ireland. A house of rather old Vines under his care was in a very unsatisfactory condition and which the proprietor would not have destroyed. They were all severed from the roots at the surface of the soil with a saw, all roots being found in very bad condition. A small portion of a new border was renewed, and the ends of the Vines were placed in what was considered the best rooting material, which was rammed firmly about them; the portion of border was surrounded with warm fermenting material, and the Vines otherwise carefully managed. The ends of the stems were never examined till the Vines were in leaf, when strong roots were being sent into the soil all round them. The crop that season was considered better than that of the previous year and the Grapes kept well.

One more rather daring case was that of a house of Vines lifted entirely out of the border in June by one who then stood in the front rank of horticulturists. A new border was made for them, and the following year they bore a very fine crop.

This paper, Mr. Editor, has not turned out exactly what I intended when I took up my pen. What I wanted chiefly to touch on was the various methods of planting young Vines that have recently been discussed in the *Journal*. A very considerable experience, spread over a rather long period now, leads me strongly to disapprove of planting young ripened Vines without disentangling their roots thoroughly and spreading them carefully out near the surface of the border. I have seen balls of healthy roots put almost entire into the borders, with the invariable result that the roots struck down deeply into the border at once. I have also seen Vines stand entirely still when so planted for a long time, and never make a start till a whorl of fresh roots pushed from the collar of the Vines just above the old ball. The shaking out of the roots and spreading them carefully out obviates this loss of time.

I have seen a portion of the stem laid in the border as well as the roots, with the result that roots issued from the stems near the surface of the soil, while the old roots never moved, and I think the laying of the stems an evil. I have seen the original roots and portions of the stems laid in the soil raised years after being planted, and not a root was found till on the stem near the surface of the soil. Many of the best Vines ever produced are planted the season they are rooted from eyes, and the best results that have come under my notice by this method have been from plants that were either grown in shallow, wide pans, or in turfy soil and root-pruned.

The tendency of Vine roots is downward, especially in borders that are not made firmly, and any method that obviates this is to be commended. One of the surest, if not the surest, way of keeping roots at the surface is to keep the surface of the borders from becoming dry and remaining so for any length of time.

Having referred to borders not firmly made, I may say that some of the most successful Vines with which I am acquainted have been grown in very solid borders. I had intimate knowledge

of a very large house of Vines in 1844. The border was all inside, and it was trodden nearly as hard as a public road. The Vines were then old with thick stems, and they are still in fine bearing order. I seldom met with finer foliage and Grapes. The variety is Black Hamburg. Some of these old Vines were lifted and put in fresh soil about 1850, and put into a hard trodden border. My impression is that many of the evils in Grape-growing would be avoided by making hard borders, and never allowing them to be long dry on the surface.—DAVID THOMSON.

ANEMONE VERNALIS.

THE genus in which this plant is included contains so many attractive and showy herbaceous plants, with flowers ranging through the whole gamut of colours, from pure white, yellows, and reds to full blues, and many of which show themselves so responsive to the arts of the cultivator and hybridiser, that no apology is needed in introducing a figure of one of the most interesting, though delicately coloured species. *A. vernalis* belongs to that section of the genus which includes the well known Pasqueflower (*A. pulsatilla*), *A. montana*, and *A. patens*, of which latter a figure was published in a recent volume of the Journal, in which the distinctive feature is a long pubescence on the members of the involucre and the outside of the petals. In *A. vernalis* these long silky hairs are of a foxy yellow colour, which contrast very pleasingly with the delicate mauve, blue, and pearly tones of the calyx. It is quite dwarf in habit, the flowers springing from a tuft pinnate leaves, and rising to 6 or 8 inches in height. It makes a pretty pot plant, or would be suitable to some cool corner of the rockery. It must on no account be allowed to get dry, rejoicing in well drained but moist situations. It is a native of the Alps and Pyrenees. The plant from which our illustration (fig. 32) is taken was brought over by the Director of the Royal Gardens, Kew.

SINGLE-HANDED.

"WANTED, single-handed gardener, thoroughly practical man; must understand fruit, glass, kitchen, and flower garden," so runs the advertisement, and I venture to say when such lines are scanned in the many bothies throughout the kingdom that nine out of every ten of the readers will turn from the paragraph with something like disgust; and yet the fact remains that some of those may perhaps find themselves in a position in after years which compels them to readily accept a single-handed situation, so that the knowledge is requisite all the same.

In all occupations we have what might be called a ladder of positions. Some are fortunate enough to reach the summit; others have to content themselves with a place at the bottom; some perhaps having once reached the various stages on the ladder and even the top, but through some caprice of fortune, or may be their own fault, have come down more quickly than they climbed; and there may be others still who are just starting at the only safe place—the bottom—and are looking aloft, buoyed with fire of hope and ambition as they mount slowly, yet, we hope, surely, the various rounds of the ladder. Of course, there are midway stages also, and some of the occupants of these have to stand by and look on, as others with greater ability or steadier determination pass by, and leave them behind in the climb of life.

We may, perhaps with some benefit to ourselves, look at the occupation of gardening in this light; and if we look closely we shall see ample room for making the contrasts of social position in our calling. A short time ago when walking through Hyde Park my attention was directed to an actor, evidently down on his luck, trying to raise funds by performing before a crowd of people, with the road as his stage and the trees and green grass as his scenery. During his opening remarks he spoke of his reduced circumstances, and proudly claimed to belong to the same noble profession as Sir Henry Irving. No one could deny it certainly, and it occurred to me that sentiments somewhat similar might be applied to gardening.

Single-handed. It is difficult to explain why it should be, yet the fact still remains that many gardeners occupying fairly good positions look upon their single-handed brethren of the craft with a feeling intermingled with contempt and pity, the former sentiment perhaps being prompted by the undeniable fact that they both belong to the same calling, and the latter—well that hardly needs explanation. I dare venture to say that there are amongst those who read these lines some who when in the company of a number of gardeners have heard something like the following. "Where is So-and-so now, who used to be at — Hall?" "Oh, poor fellow, he is in a single-handed place now." That is invariably enough; the unfortunate gardener has dropped from

their circle to one somewhat lower in the social scale. If he manages to rise again he is welcomed, and receives congratulations, but as for the former descending to him in his reduced position—well, that seems out of the question.

There is, perhaps, no better field for studying these contrasts of social position than at a large horticultural show like those held at Shrewsbury, the Crystal Palace, and York. There you will find gardeners well known in the horticultural world, admiring or criticising the various exhibits; and a little further on is a group with a much less important air. It is needless to add to what class they belong. A nod is invariably the only mark of recognition between them, but look closer and you will see that the latter are as



FIG. 32.—ANEMONE VERNALIS.

enthusiastic in their praises or as severe in their criticism. Surely there is no disgrace about earning an honest living as a single-handed gardener, as there are many men now holding high positions in the horticultural world who once belonged to this lower section, doing their duty in it, and losing no opportunity of improving themselves, until at length they received their just reward, proving that "Nothing succeeds like success."

There seems to be an impression that a man, to take a single-handed situation, or one where only two or three others are kept, requires little ability; but this, as many holding these positions can testify, is an erroneous idea. In large establishments there is generally a capable foreman, responsible to the head gardener, for the various departments, the latter taking supreme control. And again, in such an establishment, if a crop fail, arrangements can be made so that it is not missed to any large extent. But in small places the case is very different; our single-handed friend has no such facilities, the failure of a single crop is a serious matter for him, especially if he is unable to give a satisfactory reason why.

The gardener is solely responsible for all, and much tact and management is necessary in order to meet the requirements of the various members of his employer's household. The master likes to see everything straight and tidy, and perhaps has hobbies in the shape of a few Orchids, Chrysanthemums, or what not; the lady must have a continual supply of flowers for decorating her rooms, and of course looks to the gardener for them, often never realising the many difficulties the poor fellow has to contend with in raising them. The cook is not slow to make herself heard if the vegetable supply runs short, and he has further to attend to the various requirements of the younger branches of the family, should there be any. These and a thousand other offices, known only to gardeners of such positions, have to receive attention; and the managing capacities of the man are taxed to the utmost in order to carry out his many duties satisfactorily.

Yes, every word of the advertisement quoted at the head of these notes is true to the letter. The orchard and fruit garden require a knowledge of that department; the vinery, conservatory, and greenhouse demand a man who knows something of Vine and general plant growing. Knowledge is further necessary for the kitchen and flower garden, and then tact to arrange the various duties, so that each in its turn receives attention.

No, it does not by any means follow that because an establishment is small the gardener need not be versed in every branch of his art. On the other hand, he has to be even more acquainted with the smaller details usually left to the subordinates in more pretentious places, and I go so far as to assert that some of our best practical gardeners are to-day holding single-handed or small situations. Considering, too, that a large percentage of our gardeners are either single-handed or have only limited assistance, then the lower section of the calling should receive recognition and consideration from those who belong to the more advanced phases of the horticultural world, bearing fully in mind that a great power in the gardening fraternity are those who are single-handed.—G. H. H.



CYPRIPEDIUMS.

In my notes on this genus last week I referred briefly to the general system of culture, and as there are at present a large number of species and hybrids in flower, some of the better known of these may be lightly touched on with advantage. *C. Argus* has become a popular kind, and deservedly, the blossoms, as a rule, coming in somewhat earlier than most of the *barbatum* section. It is a well marked form, easily recognisable by the large dark spots on the petals. In the type these are of a dark purple freely displayed on a whitish ground colour, and the petals, like the dorsal sepal, have green stripes running through them. The markings vary greatly in density of colour and disposition, those on *C. Argus superba* being mostly jet black, while those of the varieties *Moensi* and *nigricans* are freely disposed over a larger area than those of the type.

C. Arthurianum, a choice and pretty hybrid, is of a totally different character, as may be supposed, owing to its parentage—viz., *C. insigne* and *C. Fairieanum*. It has rather short broad leaves, after the style of *insigne*, the flowers being pale green in ground colour, the dorsal sepal large, margined with white and spotted with deep crimson. The petals are somewhat similar in colour, and hang downwards, the lips being marked with deep brown. This hybrid was named after Mr. Arthur Veitch, and first flowered at Chelsea in 1874. A very variable hybrid is *C. Ashburtoniae*, named in honour of Lady Ashburton of Melchet Court, Romsey, whose late gardener, Mr. T. Cross, was one of the earliest raisers of hybrid *Cypripediums*. This first flowered in 1871, and is the result of crossing *C. barbatum* and *C. insigne*. The first cross has been improved on by using the superior forms of these species as parents, the resultant varieties being larger and of better build than the original.

C. Boxalli, whether recognised as a separate species or classed as a variety only of *C. villosum*, is a showy and very useful kind that no collection of intermediate Orchids should lack. In habit and shape of flower it is almost a counterpart of the latter well known kind, but the dorsal sepal is heavily spotted with a blackish

maroon or purple. This also varies in density of colour, *C. B. atratum* and *C. B. nigrescens* being the deepest coloured of all.—H. R. R.

ORCHIDS FOR AMATEURS.

I AM indebted to "H. R. R." for a congenial theme, and whilst readily endorsing the remarks in his able article (page 179) pertinent to this subject, I venture to supplement them by a few of my own. If many of our amateur gardeners—those "who love a garden and love a greenhouse too" (and, of course, have one to love)—could be persuaded that some of the most charming members of this aristocracy of plant life will so readily reward their efforts, cool Orchids would doubtless be more generally cultivated. Moreover, for those to whom the procuring and preparation of soil, sand, and manure is the bugbear of an amateur's life in the greenhouse, then these plants have a particular claim on his attention. With a small box of fibrous peat, another of charcoal, and an occasional contribution of sphagnum moss from some friend, through the post (if not procurable in the locality) the munitions of war are complete.

But there is a great deal more of persuasive force required to push our amateur into Orchid growing—to overcome that democratic prejudice excluding these aristocratic plants from his greenhouse. The very name of Orchid conjures up visions of something beyond his reach—of associations with millionaires, or a Cabinet Minister at least, and should you broach the subject it is, possibly, to find a suspicion ensuing that you are luring him to ruin. Visions of tropical heat scorch his brow and consume his coal supply. A pocketful of guineas must accompany him if he ventures near an Orchid sale room or nurseryman's Orchid houses, for his head is filled with hundred-guinea specimens, or orders for a thousand Orchids for a thousand guineas. But we reduce the guineas to shillings for our friend and lower the temperature suitable for cool Orchids, but to speak of degrees of temperature is only bringing to view another mystery; in fact, our Orchids are, to him, surrounded by mystery, and he will have none of them.

But our amateur friend may now leave all of these deterrent factors out of his calculations, even to the thermometer, if he so wills it, although I may be called to account for my temerity in including (or rather excluding) the latter. But I would not have our amateur frightened in any degree, or by any degrees. The simple instrument may be a complex affair to him, and cause him no end of worry. If his cool Orchid house feels cool and comfortable in summer heat—a pleasant retreat by reason of shade and moisture—and if winter's frosts are kept from appearing on the glass without being hot or stuffy at any season, our amateur may safely start on these lines of temperature, growing more exact in the matter as his love of the subject grows.

Aware, as I am, of leaving an opening for criticism from orthodox cultivators, I am equally prepared to show from past experience (not limited to a few plants, or even hundreds) the practicability of this freer method of culture, provided that the object of advancing it here is not lost sight of. I would prefer that our amateur friend should have his thermometer, and keep it as near 50° all the year round as he can, with the rise or fall from outside influence (if in reason) not a matter of anxiety. Shading and frequent syringing will be other drawbacks to a business man. They need not be. Make the first permanent, for the summer at least, by painting the glass or stretching a piece of canvas immediately over the plants. As for syringing, let not the business head be troubled, but provide plenty of moisture-retaining materials about the plants. Keep the plants always moist; noting how a grower pots his plants will explain better than a page of writing. As for varieties, commence with *Odontoglossum Alexandræ*, semi-established plants of which may be purchased at 2s., or even less.—ALEX.

A PRIMULA NOVELTY.

THE illustration (fig. 33) depicts a new departure amongst these popular flowers. Messrs. Jas. Carter & Co., Holborn, who have for so long occupied a leading position among Primula raisers and growers, are responsible for the novelty, which was obtained from a seedling and the result of cross fertilisation. Seedlings of the first year throw up single stems of bloom which form at the summit a leafy calyx, in the centre of which a heavily fringed flower of white delicately suffused with rose appears, making, as the engraving shows, a buttonhole in itself. As the plant gains strength, this Primula, in its second and following seasons of flowering, produces a sturdy footstalk, crowned with a large truss of blooms of the same character as the one shown. The plant is a robust grower, of sturdy compact habit, and has been applicably named "Bouquet." This variety, we suspect, will be welcomed by lovers of novelties as a useful addition to this well-known family.



TO READERS AND WRITERS. — Notwithstanding the increase in the number of pages comprising the present issue of the *Journal of Horticulture* we have been compelled to hold over several articles that are as creditable to the writers of them as they will be interesting to readers of future issues. The Rose and Chrysanthemum sections had to be printed on Monday. Several items of news have had also to be abridged or postponed. Our obligations to contributors are the same whether their communications appear promptly or not. We like to be able to rejoice in a store of good things.

— GARDENERS' ROYAL BENEVOLENT INSTITUTION. — On Wednesday, the 4th inst., a meeting was held in the Guildhall, Exeter, with a view to the formation of an Exeter branch of the above excellent Institution. Speeches were made by Messrs. Harry J. Veitch, G. J. Ingram, and P. C. M. Veitch, after which the formal proposition was made and carried unanimously. Officers and a committee were elected, and comprise some of the most influential and energetic gentlemen in the district. We trust the scheme will meet the success it deserves.

— MILLED CARROT SEED. — Messrs. Pennell & Sons, Lincoln, send us samples of Carrot seed, as milled by a new process. It is firm, clean, and bright, and can be sown or drilled as easily as Onion seed. It differs materially from the closely adhering new English seed also sent, from which the sample was cleaned. No doubt, as is suggested small packets of clean seed can be made up in quarter the time occupied over bearded seed, and in that respect well milled seed will facilitate work in seed stores during the busy season.

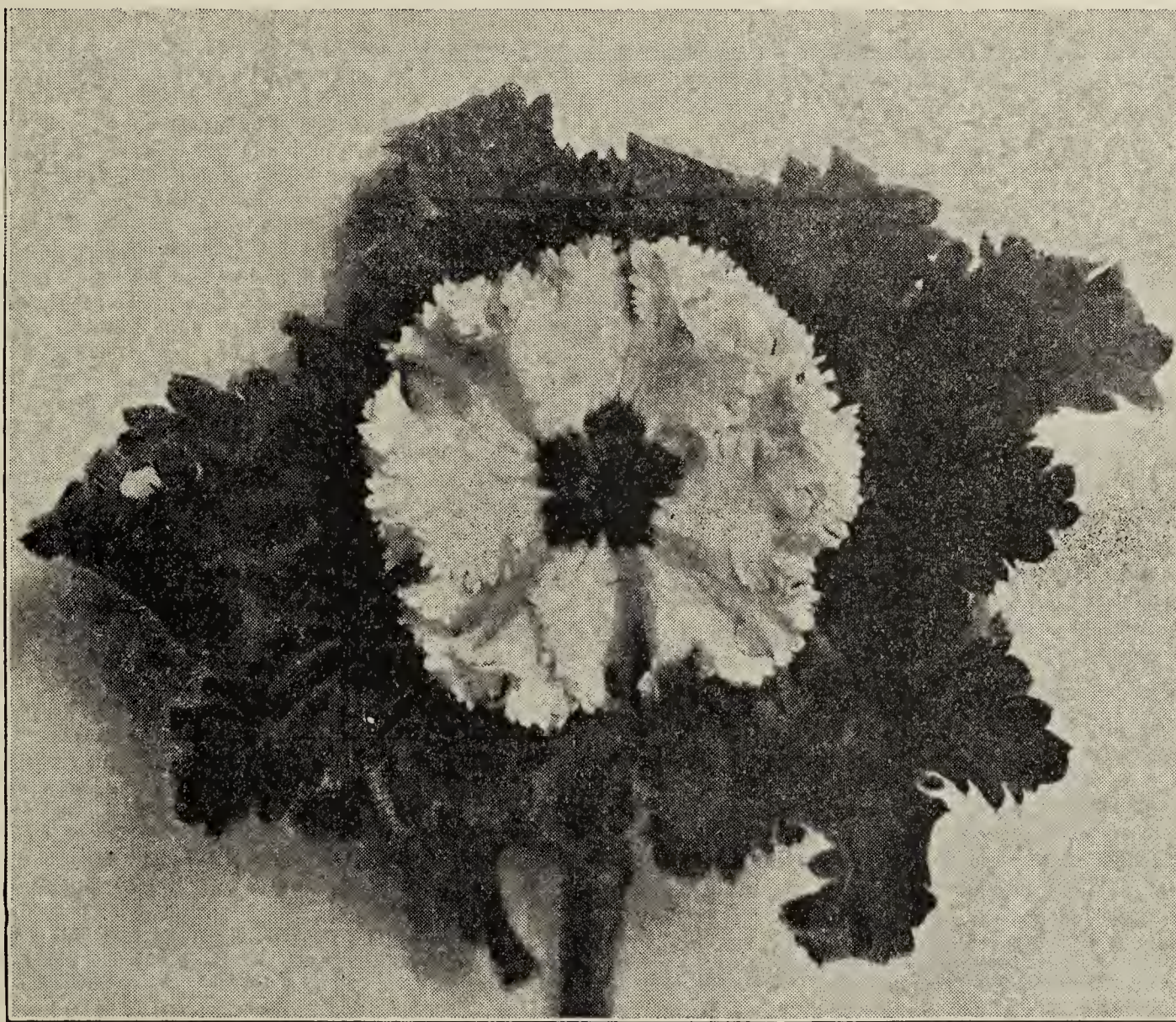


FIG: 33.—PRIMULA BOUQUET.

— WEATHER IN LONDON. — The weather during the past week has been more like April than March, as showers with gleams of bright sunshine have alternated almost every day. The weather generally has been warm, though it was colder on Tuesday morning than on any other day since our last issue went to press.

— WEATHER IN THE NORTH. — The week ending Tuesday morning has again been marked by very variable weather, boisterous westerly winds with heavy showers occurring on several days. On the morning of the 4th, 5°, and on that of Tuesday 3° frost were registered. Friday was one of the stormiest, and Saturday perhaps the pleasantest day of the season. Sunday was showery and cold; Monday fine, especially in the afternoon; Tuesday morning dull, but fair. — B. D., *S. Perthshire*.

— PRIMULA MAGENTA QUEEN. — Blooms of this Primula have been sent to us by Messrs. B. S. Williams & Son, Holloway. They are large, stout, and rich, the colour showing well, not in the daytime only, but under artificial light.

— DEATH OF MR. GEORGE PRINCE. — It is with regret that we have to record the death of this Oxford rosarian, which occurred on the 3rd inst. in his sixty-fifth year. The deceased was well known and extremely popular amongst horticulturists, and his death will be deeply regretted by all who knew him. Appreciative *in memoriam* notes from "D., Deal," arrived just too late for insertion this week.

— THE NEW FOREST. — There is always a strange interest attached to the New Forest differing from other Old World woods still retaining their freshness of antiquity. An interesting question arises with regard to the afforestation of 63,000 acres as to who were the contracting nurserymen of this big job. No historian seems to have thought it worth while to give any account of this very expensive contract. Some antiquarian can surely find the bill which William the Norman had to pay for the planting and purchasing of trees, which at 6 feet apart would reach the astounding number of 76,230,000, a good order for some contractor. Was he some favourite of the King? — T. FRANCIS RIVERS.

— **DEATH OF MADAME ERNEST CALVAT.**—Those of our readers who know Mons. Ernest Calvat will share with us the feelings of regret with which we make the announcement that his wife departed this life at Grenoble on the 2nd inst. Madame Calvat was only in her thirty-eighth year.

— **THE COOMBER TESTIMONIAL.**—The Committee has resolved to close this fund on March 31st. The amount subscribed is £113 4s. 6d. Those who have promised subscriptions are asked to forward the amounts, without delay, to Mr. H. J. Veitch, Chelsea, or to Mr. J. Willard, Holly Lodge, Highgate.

— **LIVERPOOL HORTICULTURAL ASSOCIATION.**—The usual monthly meeting was held in the Free Library on Saturday last, Mr. T. Foster presiding. Mr. C. A. Young of West Derby read a paper on "Carnations," and Mr. J. J. Craven, Allerton Priory, one on "Serviceable Varieties of Fruits." A hearty vote of thanks was passed to Messrs. Young and Craven for their excellent papers.—R. P. R.

— **THE BIRMINGHAM AMATEUR GARDENERS' ASSOCIATION.**—At this Society's fresh quarters in the New Technical School, on the 5th inst., before a large attendance of the members, Mr. John Pope, F.R.H.S., gave an address, entitled, "Propagation of Plants by Methods Other than Grafting." The various modes of propagating were dealt with in a clear and concise manner, and much useful information was imparted.

— **THE BRISTOL AMATEUR HORTICULTURAL SOCIETY.**—The first spring meeting of the above Society, which was held at Colston Hall on Wednesday evening, was marked by a rare floral display by the members. Mr. T. D. Sibly (President) presided, and a paper on the "Culture of the Carnation" was read by Mr. F. Hooper of Widcombe. Amongst other items dealt with during the evening were "Dahlias," by Mr. W. E. Turner; and "Primulas," by Mr. J. B. Cole, while Mr. G. Wager continued his series of instructions on Chrysanthemum culture.

— **LAWN MOWERS.**—Messrs. Follows & Bate, in view of the grass-growing season, desire us to state that they have perfected marked improvements in both of their mowers. The aim of the makers, in the case of the "Runaway," is to produce a machine of the highest possible quality and finish, while the "Speedwell" is provided as a reliable and cheap mower that will compare with advantage against the light and less substantial machines imported from abroad. They would like their countrymen to support home industries, and not to forget, among other things, their handy little gardener's friend, the grindstone, as neither easy nor good work can be done with blunt tools.

— **A PREMATURE SPRING.**—Owing to the remarkable mildness of the past winter, vegetation is advancing with dangerous rapidity. We have, indeed, experienced during the last week a visitation of snow, accompanied by a few degrees of frost; but rain, productive of rapid growth, has once more supervened. Plum trees, which are supposed to blossom about a month earlier than Apples, will be in flower in my garden in a few days, the buds of The Czar and Early Rivers varieties having already reached their normal dimensions; while Pears and Cherries, especially Pitmaston Duchess and Black Eagle, are fast following in their train.—DAVID R. WILLIAMSON.

— **THE "ISLAND" PLANT PROTECTOR.**—This is a simple contrivance, that has many advantages, and which should be used by all plant raisers and growers. It is made in the form of a plant saucer having a detachable inverted pan in the centre on which to stand the pots. As the saucer can be filled with water, the plant is truly on an island to which slugs, caterpillars, woodlice, and other pests will have difficulty in landing. In addition to this, a more uniform condition of moisture may be maintained—an important point, especially in a dry atmosphere. It would be excellent for Ferns, Orchids, and various other plants in dry structures. The patentee and maker is Mr. H. F. Brown, 129, Selhurst Road, South Norwood.

— **DAFFODILS.**—I observe that a Daffodil Conference is to be held at the Royal Botanic Gardens, Regent's Park. I am delighted that it will not be held at the Drill Hall, and therefore can wish for it every success. The poor Drill Hall meetings have been so inundated with "Daffs" in the spring that they have become wearisome. Another Conference would have broken our hearts absolutely. Happily, we are spared that infliction. Of course, Daffodils are beautiful; and if some will make them a floral god and fall down and worship let them do so, but that is no reason why everybody else should be forced to join in. However, so far all is well, and we Fellows can attend the Drill Hall meetings this spring without fear of being driven Daffodil mad.—F. R. H. S.

— **CARNATION URIAH PIKE.**—I notice that "Inquirer" on page 162 writes to know whether the above is generally acknowledged to be a free-flowering winter variety, and also asks for the method adopted for growing it. My experience differs from that of your correspondent "A. D." (page 206), having found it this winter a free bloomer. We started ours twelve months ago last August, grew them on through the winter and spring, flowering them all the time, then hardened them in the summer, and about August flower buds began showing. They were housed in September, and have continued flowering from that time till now. A week before Christmas we cut a spray with six blooms on it from one plant, and the remainder have all done equally well.—E. R. R., *Emsworth*.

GENTLE SPRING.

"My heart with pleasure always fills,
And dances with the Daffodils."—WORDSWORTH.

SPRING is here, a truly poetic spring, a spring of fair, soft winds, bright sunshine, of early blossoming flowers, and of birds in full song; a spring that brings life and light to the oldest heart and dim-sighted eye. So far there has been almost a total absence of cutting winds and biting frosts, of dreary dust clouds and leaden skies. Every spring seems a fresh miracle, such a wondrous resurrection, such a life from the dead. It is the very gentleness of spring that makes its chief charm—so slow, so imperceptible, yet so certain this growth of plant and flower. Spring teaches a lesson of patience; she is never (notwithstanding her youth) in an unseemly hurry, never too late, never too early. Nature is very lavish here with her gifts, and the old Earth is a fruitful mother; year after year ever freshly and ever fairly does she deck herself with choicest jewels, and, unlike the jewels of ordinary commerce, they are, though so rarely beautiful, within the reach of all. It is often in the poor man's garden you find the greatest variety of spring flowers, flowers that tell of Old World gardens, that have been treasured for generations, such as Parkinson speaks of in his "Earthly Paradise." The village children have such happy hunting grounds when all the hedge bottoms are fragrant with the Violet, the Violet of regal purple and of virgin white, such posies for home decoration, such posies to adorn the schoolmaster's desk.

Yesterday we stopped to listen to the glorious bird concert in the woods by the east lodge. Were they thanking their Father for His bounty and care, and on the wings of song presenting their glad anthem at His footstool? Our earliest flowers are under the south wall of the village church, fit emblems of our immortality. Snowdrops are everywhere, borders of Crocus playing in the sunshine, Violets hiding among the tufts of grass. Can a sweeter resting place be imagined for the poor tired body? It is peace—perfect peace. The cawing of the busy rook does not disturb, it only soothes. The laughing dancing Daffodils sway in the gentle breeze. See, here they quite encircle that loved one's grave. Are they not better memorials than the cold stone and "storied urn." Time crumbles the stone and defaces the inscription, but as we one by one pass to that silent land the flowers are still there, proclaiming with sweetest voice that they yet watch over the last resting place of one who during life found in them such joy and comfort.

Can you smell the smell of the fields? You can't define that subtle essence; but it tells of life—life of grass and corn blade, life of tree and hedgerow. The stream seems to move more merrily; or is it only the sun's rays that cause it so to sparkle and flash? Perhaps after all it is in the woodland glade that the spring feeling is the strongest. From under the dead leaf and bracken life in a thousand forms is springing. The budding trees are offering an incense of their own, and only waiting for a little more sun and shower to burst into a robe of vivid living green.

Much house building is going forward, and, unlike human work, these woodland homes do not spoil the landscape nor block the view. They are never mean or shabby, but are so perfectly adapted to the wants of the feathery babies, so beautifully finished, so cunningly hidden.

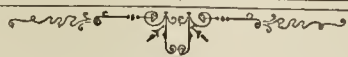
A rainy spring day does not depress as other rainy days are apt to do. Perhaps this is because we know that on the morrow we shall see the giant strides vegetation has made. Water is always wonderful in its action, as wonderful in its gentleness to the tender leaf and spikelet as in the mighty overwhelming vehemence of the mountain torrent.

People take holidays at set times, dates that are marked out for them in the calendar, but would not an occasional day in the country early in spring before the legal Easter outing, be life and joy to the wearied body and harrassed brain?

"For the winter is past, . . . the flowers appear on the earth, the time of the singing of birds is come. . . . Arise and come away."

—THE MISSUS.

THE RIGHT HON. J. CHAMBERLAIN—HIS HOME AND GARDEN.



FROM time to time in the history of our world-wide empire circumstances have arisen which have forced into prominence some personality. He has not sought the circumstances, but, on the contrary, could he have foreseen them, would have strained every nerve to prevent their occurrence. They have simply happened with startling suddenness and dangerous possibilities, and had to be grappled with by someone, making the position of him on whom the duty fell either one to be pitied

wand of a wizard into a spirit of unity, when "none is for a party but all are for the State." Our Empire has been seen at its best of late, and the world has taken due note of the fact. Mr. Chamberlain has of necessity had his share of anxiety and responsibility—perhaps the lion's share; and though he may disclaim having done anything that others of his friends on "either side" would not have done under similar circumstances, he has all the same, and not the less worthily,



FIG. 34.—HIGHBURY.

in case of failure, or honoured, if not envied, in the event of success. There have also been times and occurrences when it has been possible in non-political journals to make reference to the acts of Her Majesty's Ministers without the least risk of encroaching on the domain of party susceptibilities—when, in fact, miserable party splutterings have been submerged in the broad deep sea of patriotism.

One of the grandest characteristics of our race is best portrayed, or only fully portrayed, in moments of national difficulty or prospective danger. If a calamity is apprehended, or a grave danger is to be averted, as if by national instinct the spirit of party is changed as by the

upheld the traditions of his country. These are coolness and promptitude at a critical time—qualities which have many times and oft exerted their power, in the latest instance in averting international complexities, the gravity of which, and their far-reaching character for evil, no one could or can foresee. And now having caught Mr. Chamberlain at his best, we shall embody the sentiments of our readers of all "colours," in expressing the pleasure that they must naturally feel in having a statesman so distinguished on the roll of horticulturists, while they cannot think the time inopportune for making some reference to the home and garden of the right honourable gentleman in the *Journal of Horticulture*,

MR. CHAMBERLAIN AS A SPEAKER.

Some time last summer a casual visitor to Birmingham recorded in these columns what he evidently felt as a stroke of unexpected good fortune on his part, or rather a double stroke, for first he seems to have smuggled himself into the grand town hall on the occasion of a great speech by the city's famous parliamentary representative, and then the next day met him in his garden. It is not easy to gather from the little narrative with which he was most pleased—the speech or the garden. The occasion of the former he describes as a sight that he would not like to have missed—"A quiet, cool, pale faced man, holding a packed audience of thousands in the hollow of his hand, drawing cheers and laughter alternately with indescribable nonchalance." The clear incisive utterance and consummate ease of the speaker seems to have impressed the Londoner, for he says Mr. Chamberlain could have kept his cigar going all the time, as he did during his after-dinner speech in celebration of a great show in the Aston Park grounds about twenty years ago. But our narrator did not tell the whole story of that episode, perhaps he did not know it, and it is just possible that the right honourable gentleman himself may not know everything in connection with his utterances on that occasion.

It was somewhat in this wise. A chairman was required to preside at the festive board, and he must be a local notability. Mr. Chamberlain's name and fame had then spread far beyond the bounds of the fine city which he has served so well, often as chief magistrate, and for which he has done so much. Some of the London horticulturists expressed a desire that he, as Mayor, might preside over them. But those days were not as these are, and the party bogey stood in the way of the invitation. It seems all very absurd; but common sense prevailed, and what is known as the cigar speech was delivered to the delight of all who were present. At the close of the proceedings one of the chief opponents of the proposition to invite the popular leader was bantered not a little, and then compelled to answer the question. "What do you think of Chamberlain now?" "Well, you see, we had to consider, and ——" "Oh, hang considering, what do you think of him now?" Then came the emphatic verdict. "If I must say what I really think, it is that I think he's a *stunner*." The party shell was broken by the genial persuasiveness of the skilled dialectician, and the *man* was found behind it speaking from the dictates of his heart.

It has been said of Mr. Chamberlain what can only be said of few men—namely, that in the manner of his speeches he never disappoints. Anyone is at liberty to disagree with their purport, though it may not always be particularly discreet to openly challenge him at the time; but in style, character, and finish they command attention and evoke admiration. One of the greatest compliments perhaps ever paid to Mr. Chamberlain as a speaker was by a gardener and political opponent. The right honourable gentleman had been delivering a series of speeches in one of our largest towns. The gardener was asked if he had been to hear him. The reply was, "Yes, but I shall not go again;" and went on to say, "he is the most persuasive and captivating speaker I have ever heard, but I don't intend that he shall convert me."

A speech that would have pleased this gardener, and all gardeners, was that which the right honourable gentleman delivered in his capacity of Chairman at one of the anniversary dinners of the Gardeners' Royal Benevolent Institution. On this occasion the speaker revealed his love for the art from which he derives so much pleasure. Among other remarks he said, "We may differ greatly on many questions, but we are all united in our interest in and our love of horticulture. Our favourite pursuit has afforded rest for and brought happiness to many of the greatest and wisest in the land. Statesmen have found recreation in it; philosophers have commended it; doctors have prescribed it; lawyers have advocated it; and poets have sung its praises. . . . I claim, for all that concerns the cultivation of flowers, that it satisfies that love of natural beauty that is inherent in the human breast; that it cultivates our intelligence and powers of observation, and at the same time provides variety and excitement by the constant novelty which results from the attention we give to it. And while it does all these good things it is, I believe, the most unselfish of pleasures, for it is enjoyed the most in the largest company; and, unlike some other amusements to which the race is prone, ours inspires no evil passions, inflicts no pain, and causes injury to no man either in his character, in his health, or in his estate."

True and eloquent words are those, and the speaker went on to note the way in which gardeners ministered to the happiness of life—an occupation though interesting, yet not too highly paid, with few prizes in store—and therefore it was difficult for the most thrifty in the

profession to make adequate provision for the eventualities of life. On those grounds he pleaded for the Institution, and hoped in time that it would meet all claims, and no deserving applicant be turned away, concluding his appeal by saying, "I feel assured we shall all take the greater pleasure in our pursuit if we know that those who have grown grey in our service will not suffer want or dishonour in their declining years."

The response was excellent, for the Secretary announced that the contributions to the Institution in connection with the dinner amounted to £1400, including 50 guineas from the Chairman and 10 guineas from Mrs. Chamberlain. Replying to the toast of his health, the Chairman spoke in lighter strain, and his words are too good and characteristic to be omitted here. It is a delightful blending of the gardener and politician to which no possible exception can be made. Here is the blend:—"Gentlemen, I claim to be one of your body. I have taken great interest in gardening for more than thirty years. During that time I have grown, or attempted to grow, everything, from Dandelions to Orchids, and I chiefly pride myself on Dandelions. (Laughter.) But I can assure you that in my devotion to this pursuit I have had my reward. During many years my business has been the business of politics, and my pleasure has been the pleasure of gardening. I sometimes think a parallel or an analogy might be drawn between the two pursuits. The progress of political ideas and the growth of flowers have something in common—they both require ventilation. (Laughter.) But I don't think the parallel ends there. It is certain that they both very often succeed best in 'heat.' Then you know that in gardening we are troubled greatly by obstructive insects, which we call 'thrips,' 'red spider,' 'mealy bug,' and the 'Orchid devil.' (Great laughter.) Well, if you have read your newspapers, you must be aware that we politicians are also troubled with insects (laughter), although I should be very sorry here to have to mention their names. Gentlemen, you will readily understand that, having derived much advantage and pleasure from the pursuit of gardening, I am delighted to have an opportunity for helping, however humbly, to provide in some measure for those who are also engaged in it, but under less fortunate circumstances."

MR. CHAMBERLAIN AS A GARDENER.

It is now made clear that Mr. Chamberlain is devoted to gardening and animated with the best wishes for those who engaged in it, and it is well known that he has a strong desire to help and encourage those who show a disposition to help themselves in making some provision for the future. Those young gardeners in his employment, as well as others of his servants, stand the highest in the master's estimation who leave not less than 1s. a week of their wages to accumulate till the end of the year. Then, of course, there would be £2 12s. for those who did so; only it grows in that time like a thrifty plant, and each man who is thus provident has an equal amount added to his little store, while all domestic servants are rewarded for their thrift in the same excellent way, whatever may be the extent of the savings from the wages earned during the year. There is nothing compulsory about the plan, every servant is free to benefit by it or not, and the more who do so, and the greater the amount thus reserved, the greater the satisfaction of the master of Highbury in adding the bonuses.

It must not be supposed, however, that any young gardeners, or other servants who are diligent in saving, but not diligent in other ways—*i.e.*, in the discharge of their duties, have any special consideration shown to them. Mr. Chamberlain is a considerate employer, closely observant, practical, firm, and just—scrupulously so to his dependents, but also, and most properly, just to himself. There can be no such thing as currying favour by falling in with his desire in the plan that he has devised for their benefit, while their shortcomings in other respects are in the least overlooked. Every man's character is in his own keeping, and his progress depends on his own efforts, conduct, prudence, and judgment, and while thrift betokens prudence in one direction, not less so does the proper discharge of duty on the other. Given competence, trustworthiness, uprightness in character, then, and not till then, will evidence of thought and thrift be considered in promotion and reward that follow to the more deserving. Highbury, it will be perceived, is a good school for young gardeners. They can learn much there professionally, besides acquiring habits of thought and carefulness that may be of untold benefit to them in after life.

THE MANSION AND CONSERVATORY.

So much for the "master," his tastes, and methods; now let us glance at his home and garden. It is necessary to say that everything is of Mr. Chamberlain's own making, and justly proud may he be of what he

has accomplished during a period of some twenty years. The mansion he built, the pleasure grounds he formed and planted, the park extensions completed, the great extent of glass structures erected, the enormous number of plants in almost bewildering variety purchased and raised—all these features in the aggregate, and provided in so short a time, constitute little short of a monumental work. The mansion, a substantial and commodious building of brick with stone dressings, is much larger than appears in the illustration (fig. 34, page 227), which only shows the drawing-room front, with Mr. Chamberlain's business room, facing south. The carriage entrance is on the west, and the ranges of glass extend in an easterly direction. These are in immediate connection with the mansion, the conservatory—a large and lofty structure—adjoining and leading out of the drawing-room. The central portion is occupied with beds, containing large Palms and other appropriate plants. Quite in the centre is a grand specimen of *Chamærops excelsa*, 30 feet high and furnished with glossy leaves from the summit to the base. Another bed contains as a central object a vigorous young specimen of *Areca sapida*, growing from a mass of *Hedychium Gardnerianum* (fig. 41, page 239), no doubt the finest example of this old conservatory plant, in the effect produced at the present time, to be found in England.

It is often seen in a semi-starved condition in pots, with pale green leaves, but as planted in the good medium provided in the Highbury conservatory the leaves are of the deepest glossy green. In the summer the flower heads of pale primrose must have been of unusual size, and have filled the air all around with fragrance. But while the plants are enjoyable in summer, they are even more quaintly beautiful in winter in their fruiting state, when their growth is continued under favourable conditions. The spikes on those in question are a foot long and as conspicuously brilliant as Red Hot Pokers (*Tritomas*), but in a very different way. They are studded with deep scarlet Currant-like fruits clustered in persistent orange-coloured receptacles, from which project in bristling array the stiff green bracts, giving the whole a heavy appearance. The seeds are pushing and crowding each other out, and with the brilliant combination of colours and the whole character of the spikes have a remarkable effect. From some of the seeds plants have been raised, and it would be easy to raise hundreds more if they were required. *Hedychiums*, which are closely allied to the Ginger plant, can be grown and flowered in beds in the open air in the summer very well, as might have been seen at Chiswick last year, but they are usually grown under glass, and then it is customary to cut off the fading flower heads. This, where their growth can be continued, is a great mistake, as the spikes that follow have a beauty all their own, even exceeding that of the flowers.

At the back of the conservatory are a massive marble arch and fountain, furnished with *Rex Begonias* and Ferns, with a plant or two of *Aponogeton distachyon* in the basin. This part of the building is furnished with rustic chairs and seats, and is used as a resort after dinner for coffee or as smoking bower, and a pleasant resort it must be. Flowering plants are arranged on low front stages, also in various parts of the building in groups or bold masses, and these, with the ample foil of foliage of the permanent occupants, must render the structure very delightful, especially when it is also seen sparkling with the pendants of the electric light.

As an annexe of the conservatory is a very charming rock fernery, not large but bold, and a most enjoyable connecting link with the corridor into which it opens. The rugged walls are clothed with luxuriant Ferns and other appropriate plants, while in the body of the building are rocky mounds each containing a towering Palm or Fern, with an undergrowth of smaller plants suitable for the positions. Conspicuous in this enclosure is the rare and remarkable *Anthurium Chamberlainianum*. Its leaves are enormous, sagittate, and apparently 3 or 4 feet across. From the stem roots issue like smooth gutta percha cords, half an inch or so in diameter and many feet in length, which twist about, until some of them find their way into the fissures of the rocks. The plant has flowered and is ripening seeds, while it is the parent of several young plants which have been obtained by intercrossing with others of the genus, and their progress is being watched with much interest. This gigantic Aroid is of doubtful origin. It is supposed to have come in a consignment from Mr. Sander, but whence he obtained it does not appear to be known. Kew, it is said, is in possession of a plant, this and the Highbury specimen completing the stock in this country.

THE CORRIDOR AND PLANT HOUSES.

From the rock fernery, passing from the mansion, the corridor is entered. This, when furnished, is a beautiful promenade, as may be seen by the photograph (fig. 38, page 234). A border on the left hand side

supports the various climbers which clothe the wall and arch over the roof—namely, *Cobæa scandens variegata*, red and white *Lapagerias*, *Jasmines*, *Plumbagos*, *Heliotropes*, *Manettia bicolor*, *Hoyas*, *Cassia corymbosa*, *Bignonia grandiflora*, *Passifloras* in variety, *Abutilons*, *Lonicera semperflorens minor*, *Bougainvilleas glabra* and *Sanderiana*, *Bomarias*, *Fuchsia boliviensis*, *Begonia corallina*, *Lasiandra macrantha floribunda*, *Allamandas*, *Euphorbia jacquiniæflora*, *Hibiscus* in variety, *Gloriosa superba*, and a very fine variety of scarlet *Tropæolum* which quickly covers a space of 15 or 20 feet, hanging in tresses with bright scarlet flowers for months together. The border provided for the creepers is also furnished with *Imantophyllum miniatum*, *Iris Robinsoniana* and others, *Lilium auratum*, Ferns, and Lycopods, edged with *Streptocarpus*.

On the opposite side of the corridor groups of Palms, Ferns, and various flowering plants are arranged. It is on this side that the various span-roofed houses are entered, in which Orchids and various other plants are grown or displayed from time to time as their flowering period arrives. The houses—some twenty of them—are arranged close together, forming a block, the north end of each joining the corridor. Mr. Deacon, the gardener, is preparing some of Mr. Lye's free-growing



FIG. 35.—DENDROBIUM LEECHIANUM.

Fuchsias for planting out and covering the ends of these houses and what may be termed the shaded part of the corridor. Few plants could be more appropriate for the position, and as *Fuchsias* are coming into fashion again Highbury will be up to date with these elegant flowers. Judging from plants raised from cuttings last August, and now thriving pyramids 3 or 4 feet high, Mr. Deacon is an expert grower of these plants, as indeed he ought to be after a successful term of practice in the neighbourhoods of Bath and Trowbridge, districts which are as famed for specimen *Fuchsias* as Birmingham is for *Primulas*.

Several of the corridor houses are devoted to Orchids, which are extensively and admirably grown, but special attention is devoted to other plants as well. It would be a mistake to assume, as some persons do, that Mr. and Mrs. Chamberlain care for nothing but Orchids; it would be nearer the truth to say that they care for everything, or practically all kinds of plants, hardy or tender, including Orchids. For instance, we find one of the corridor houses 34 by 18 feet occupied with various stove plants, including many seedling *Anthuriums* and *Hippeastrums*. Special interest is devoted to raising and crossing both the kinds mentioned with satisfactory results. In this house was flowering beautifully the fine old stove plant *Franciscea grandiflora*. The house adjoining is devoted to Ferns of various kinds in pots—quite a collection of medium-sized plants. Then we find two houses mainly devoted to Indian Azaleas, including the best varieties; hybrid greenhouse *Rhododendrons* and *Clivias*. The last-named plants are no doubt among the finest to be seen in private collections of the best modern varieties.

Four of the corridor houses are kept bright with the following kinds in due season and rotation, not in mixture, but in collections of each kind: *Cyclamens*, now in beauty, a fine assortment of excellently grown plants.

The supply is maintained by sowing seeds annually in October. Primulas, now fading, make a gay show in turn; as they are wanted early and fine, the plants are raised at the same time as the Cyclamens—October—and hundreds of firm sturdy plants are ready for shifting from 60-size pots. Gloxinias are being started to furnish one of the houses, and tuberous Begonias another. Then a display is made in due time with show and fancy Pelargoniums and Zonals in different structures. At present a mass of the fine winter flowering Begonia Gloire de Sceaux is highly effective, while another house is gay with Cinerarias and mixed bulbs. It will be perceived that it is not a question of growing a dozen or two of the different plants required, but from 500 to 700 each of the several kinds have to be provided to furnish the houses satisfactorily. Still, great in number as are the different kinds in the aggregate, Orchids excel them, as these occupy fourteen houses, not all, however, opening into the corridor. This terminates in a house 36 by 18 feet devoted to pot Roses in winter and spring and Tomatoes in the summer.

It may be said that the corridor and all the houses in connection with it—Rose house, rock fernery, and conservatory—can all be



FIG. 36.—ODONTOGLOSSUM HARRYANUM.

illuminated in a moment by the touch of a button, throwing over everything from end to end the rays of the electric light from behind and between foliage and Ferns arranged for masking the pendent globes. The fine floral promenade, with its agreeable temperature, is used on the occasions of balls and receptions during the winter, very well accommodating 500 or 600 guests; while during the summer hundreds of children visit the houses and grounds, as also do adult members of various associations, with the consent of Mr. and Mrs. Chamberlain. Thus does the right hon. gentleman carry out in practice the theory we once heard fall from his lips—namely, “One of the greatest recommendations of our hobby (gardening) in this democratic age is that it is capable of affording delight to rich and poor alike.”

ORCHIDS.

Orchids have been mentioned, but they demand more attention, the Highbury collection being justly famed. Most classes appear to be represented, some in very large numbers, such as Cattleyas, Lælias, Dendrobiums, and Odontoglossums, for practically all kinds appear to be admired by their owner, except, perhaps, Cypripediums, of which few are to be seen. As has been said, the plants occupy fourteen houses, some large, some small, the object in view being evidently the provision of the requisite space and suitable conditions for meeting the requirements of the different kinds. That these requirements are met both in respect to structures and cultural skill is evident by the clean, fresh, stout, healthy condition of the plants.

The Cattleya house, 44 by 18 feet, contains many fine specimens of choice established varieties that must make a grand display by-and-by. At present they impress by their substance, colour, and general sturdiness, denoting that they are well fortified with the materials that are essential to their health. Overhead are many baby plants—crosses not yet flowered, though some of them may be expected to do so before very long, but patience is a virtue in raising Orchids. Adjoining is the East Indian house, with a glass partition. In one compartment we find the warm house Cattleyas Lawrenceana, Rex, Eldorado, a grand variety of Schrödera (fig. 37, page 231), and others, with Vanda coerulescens, a plant of which produced seventeen spikes; in the other a number of Saccolabiums and Odontoglossum Roezli looking perfectly happy and at home.

The cool house is entered from the north side of the corridor, and is a lean-to facing north, a flat stage in front, and another rising to the back wall, which is covered with Ficus repens. Here we find Odontoglossums in countless numbers flowering beautifully, and in the best of colour and substance of petal were O. Rossi majus, O. nebulosum, O. Edwardi (fine), O. Cervantesi, with the brilliant Epidendrum vitellinum majus, Cochlioda noezliana, and the rich C. vulcanica gigantea among others. The extension (No. 4) house is mainly devoted to Lælia anceps and other Mexican kinds, grand examples of culture, including L. anceps alba, which had produced seventy flowers. Lælia superbiens is producing its charmingly pencilled flowers on a spike some 8 feet long.

No. 5 house brought under view a most healthy lot of plants of Odontoglossum vexillarium, also a number of O. grande, as well as the dainty gem Leptotes bicolor; also in glowing colours Ada aurantiaca, a very good form of Odontoglossum Harryanum (fig. 36), with the pearly white Cymbidium eburneum showing its flowers. Another house (No. 6) is crowded with Odontoglossums, margined with Ferns, all evidently enjoying the position over the open water tanks beneath the stages. No. 7 house, an extension of the corridor, is practically filled with Cattleyas, plus some fine plants of Odontoglossum citrosimum; while No. 8 is mainly devoted to Phalænopses and heat-loving Dendrobiums. Cattleyas and grand masses of Cœlogyne cristata occupy Nos. 9 and 10 respectively, and when the last-named were in beauty they would be worth going a long journey to see. Then, on the north side of a wall, we find a small low-sunken span-roof filled with Masdevallias, the equal of which, in robust yet sturdy vigour, we should have to travel far to find. They are grown on open stages near the glass, over a flooring of Oak leaves, damped as needed, below them—a practice which is somewhat general with Mr. Burberry, and it is no doubt conducive to the health of the majority of Orchids under otherwise appropriate routine.

Nos. 12 and 13 are two new lofty lean-to's for sun-loving Orchids. The first of these is intended for a Mexican house. They are chiefly occupied with Dendrobiums, of which D. Leechianum (fig. 35, page 229), D. Wardianum (fig. 40, page 237), and many others are flowering profusely. There are two very fine houses at the end of a recently erected fruit range. A step stage is formed at the back, a flat one in front, also a stage in the centre, with a path all round, and the roof is barred for the suspension of baskets. The last of the Orchid houses to be enumerated (14) is the show house; it is in the corridor range, and kept gay, especially when the family are at home, with various plants in flower, associated with Ferns and Isolepis for effective display, as represented in the photographic reproduction (fig. 39, page 235). This is a mere skeletonised reference to the Orchids at Highbury, but it must suffice at present, as other features of the garden cannot be entirely overlooked.

FRUIT AND SUPPLY HOUSES.

With the small exceptions above indicated, the structures and their contents hitherto noticed are included in what may be termed the corridor block, or houses in direct connection with the mansion, all of which can be traversed without setting foot in the open air. Nor have we to travel far to reach others that have yet to be alluded to. We are no sooner out of the terminal corridor house, now well filled with Roses, than we are in an excellent new span-roofed structure, erected for, and filled with Carnations, mostly of the Malmaison type. This house is 50 feet by 12 feet, in two compartments, and is admirably fitted for its purpose, as admitting a maximum amount of light while there is ample provision for ventilation. Mr. Wright (late Wright & Holmes), Birmingham, is responsible for this structure, as well as for a new fruit range, closely adjoining. Mr. Hope erected the Orchid houses and corridor.

The fruit range has been rather a formidable piece of work, for the

boundary wall of the estate, next the public road, had to be taken down and a new one built, and as this is a curving wall the range of glass erected against it is curved also. Strong, light, lofty structures are these, and good Grapes, Peaches, and plants will be certain to be grown in them. As before mentioned, two of these houses are fitted for Orchids, while seven others are either planted, or soon will be, with Vines and Peaches.

The four vineries are 25 by 15 feet, one house to be devoted to Black Hamburgs, another to Muscats, with other houses for Lady Downe's, Alicante, Gros Maroc, Lady Hutt, and Appley Towers. There are two old vineries in bearing, in a sort of overcrowded corner, yet by special effort in making the best of the Vines in them Mr. Deacon

centres of the trees, often too quickly, with also too often the result of basal weakness and a general jumble in a very few years. Then comes uprooting and replanting. It will do very well for market work, but in those gentlemen's gardens where the driving system is not a *sine qua non* we should see the gardener's art better represented than it is now in many of them in the training of Peach trees.

In this range, both for Vines and Peaches, the whole width intended for borders has been excavated, the trees and Vines planted on mounds or sections to be added to from time to time as is needed for root extension. It is by far the best plan: Ample provision has been made for drainage, and the unused excavations planked over and occupied with plants of different kinds from end to end. In one respect Highbury savours of



FIG. 37.—CATTLEYA SCHRÖDERÆ.

succeeded in cutting "first prize" Grapes last year; still, it may be expected that when the new houses in their fine open position are in profit the old ones in the corner will have to "go."

The three Peach houses in the new range are 35 by 15 feet. They are firmly trellised, and have been planted, and it must be added well planted, with the following varieties for succession—Peaches: Hale's Early, Alexandra Noblesse, Crimson Galande, Royal George, Dymond, and Late Admirable. Nectarines: Lord Napier, Stanwick Elruge, Pine-apple, Violette Hâtive, and Pitmaston Orange. If the earliest and one of the best Nectarines in cultivation is desired room should be found for Early Rivers.

Mr. Deacon has wisely shortened the branches of the young trees for laying a good foundation, and covering permanently the lower part of the trellis. In the race for fruit in these days it has become almost the custom to leave all the branches of young Peach trees, be they short or long, weak or strong, intact, and let them find their way where they will. They find their way fast enough, some of them, in the

Norris Green when Mr. Bardney was in charge there (and perhaps it is much the same at Osmaston), that no matter what the number of houses, pits, or frames, nor for what particular purpose erected, they all become filled with plants before the structures are a month old, making one wonder where they all came from. It reminds of the Napoleonic dictum, uttered during one of the memorable campaigns, that when the ground was stamped in Austria regiments of soldiers sprung out of it; so it would seem in some gardens that stamping the ground brings out plants to fill new structures, and there still appears to be no space unoccupied, the work of "making room" going on much as before. It denotes great love, great zeal, and untiring endeavour to do the most that can be done with the means provided, and this spirit of love, zeal, and persistent striving certainly seems to be active at Highbury.

The requirements are undoubtedly great, with so many show houses to keep furnished in due season, and the London demands for flowers thrice a week; but, then, so is the provision for their supply, and the work of those whose duty it is to meet all that may be needed is really a labour of

love. The more and better the produce that earnest gardeners can raise the better satisfied they are, and the more calmly they can sleep—always provided their efforts are appreciated; but when the reverse is the case, when really good work is done and excellent produce supplied, to meet with only a chilling acknowledgment and intimation that something better is expected—something beyond the power of man to produce under the circumstances—then does this question of supply become brain-wearying and heart-breaking work; and well it is for those workers who serve employers who are practical, like themselves, and who can accord their approval or the reverse as reason and justice may dictate under the circumstances. No doubt much is required at Highbury, but certainly nothing unreasonable expected. The master does his share in the form of appliances, and the gardeners have only to do theirs by their skill and devotion to duty, on well judged lines, to be happy.

Other adjuncts in the way of glass have to be mentioned—such as a lean-to house, 60 feet long for Melons, Cucumbers, and early Tomatoes; a span house 24 by 14, for forcing flowers in spring, and ripening *Hippeastrums* in summer, with four ranges, each 60 feet long, of lean-to pits, mostly heated; also numbers of portable frames of various shapes and sizes for Violets, Christmas Roses, Salads, and various other purposes to which such aids are applied in a cherished and well furnished garden.

One aspect of the flower supply has been omitted, but it must not be entirely overlooked, or Mr. Deacon will not be pleased. On broad shelves in the new fruit houses were observed as fine a collection of sturdy *Chrysanthemum* plants as the most critical fancier could desire to see, and standage ground is being prepared for them in an ideal position in front of the range. Upwards of 2000 plants are grown—about 700 for large blooms, and the remainder for bush and decorative purposes. They comprise all the newer and best old varieties. The large blooms are grown partly for exhibition purposes, success being shown by the winning of three first prizes in leading classes at the Birmingham show last season, where the competition with cut blooms is so severe; also three first prizes were taken for other exhibits—a very good beginning, and suggests that Highbury will have to be reckoned with in the future. For home display decorative varieties are grown in numbers of fifty and a hundred of each, such as *Lady Selborne*, *Source d'Or*, *Ryecroft Glory*, *Mdme. Desgrange*, and others, for early work; *W. H. Lincoln*, *L. Canning*, and *Cullingfordi*, being among the favourites for late flowering.

The heating of the structures in such an establishment as this is no light matter. That of the new houses is done most effectively by one of Weeks' powerful tubular boilers, and the apparatus in this range is on their system; the older corridor block and mansion are heated by *Trenthams*. There are five boilers, heating some 15,000 feet of piping in the gardens, in addition to the mansion. From eight to ten tons of coke are consumed weekly, more in severe weather. The entire system has been re-arranged by the Chelsea firm under the personal superintendence of Mr. A. W. Weeks, and the whole circulation works, as might be expected, in a smooth, certain, and satisfactory manner.

THE PLEASURE GROUNDS.

From Birmingham to Highbury, on the south, the ground seems to rise gradually to a distance of about three miles; here we reach the crest of the hill, and overlook an expanse of "real country"—a valley of grass land very well wooded, with rising ground in the distance, also well wooded and "touching the horizon." Mr. Chamberlain, with an eye for a good view, chose the crest of this hill for his home, and the ground sloping from it to the south for his pleasure garden. It was then presumably a large field, and could have contained but few trees. Two notable monarchs were, however, observed—grand Turkey Oaks; one of these by the side of the carriage drive between the north-western lodge and mansion, the other in the "frame yard," and there it affords shade in the summer to thousands of flower pots. There are also three or four tall Ash trees on the lawn, cherished no doubt as relics of the past. There the "timber" almost appears to end. But do not fancy there are no trees, for of these and shrubs there are thousands, of many kinds and varieties. These have, of course, been planted by the proprietor, and it must be gratifying to him that they have made such good progress in the time. The Conifers are, however, not likely to increase in vigour and beauty with increasing years, for Highbury, though overlooking a fine expanse of country, is not, when the wind is right (or wrong), beyond the smoke zone of Birmingham, and Conifers "don't like smoke." The leaves are too persistent, and hold the sooty particles too firmly year after year. They can be neither washed off nor thrown off as in the case of deciduous trees or smooth-leaved "evergreens," and that is

why Conifers look best in a young state in the London and other town parks and gardens within reach of the smoke fiend.

The Highbury grounds were laid out with skill and taste by Mr. Milner. Banks and dells, rocks and bogs, water scenes and rustic bridges, with most other features that impart the charm of variety to gardens being represented; but alterations and improvements, as well as planting, have always been going on. This is Mr. Chamberlain's exercise; he practically takes no other, and no doubt finds such congenial occupation conducive to his health.

In the pleasure grounds special attention is paid to hardy flowering trees and shrubs, such as the varieties of *Pyrus*, flowering Cherries, Thorns, Laburnums, and *Spiræas*. Trees which succeed best in the locality are Chestnuts, Sycamores, Acers, and *Becch*. Conifers are numerous, but only a few growing to large specimens. Hollies are a great feature, there being some very fine specimens, both of the green and variegated forms, and there are bold masses of *Rhododendrons*. Small shrubs are planted in masses towards the front of the borders, especially in the slopes, such as *Berberis aquifolia*, *Laurel (rotundifolia)*, Variegated Hollies, Aucubas, Variegated Privet, the Golden *Cupressus*, with others, producing a far better effect than in the orthodox mixture. Spaces are left at the back for tall flowering plants, such as *Delphiniums*, Sunflowers, and Hollyhocks. The last named seem at home, growing and flowering freely in their season, and showing little, if any, signs of disease. Is it that the fungus which is so destructive in most places is conquered by the Birmingham smoke?

VARIOUS HARDY PLANTS AND FLOWERS.

In the grounds are several pools. One of them is rendered very interesting in the summer with bog plants, such as American Grasses, and Reeds, *Iris Kæmpferi*, and the pink and white *Spiræas*, and *Brasenia peltata*. Another pool is furnished with *Nymphæas*, among which are *N. alba*, *N. alba rosea*, and *N. flava*, *Sagittaria*, Water Irises, *Menyanthes trifoliata*, and other plants appropriate to the position. The swan pool or lake is bordered with *Rhododendrons* and several varieties of Willows. In open places are groups of Water Iris, such as *I. sibirica*, *I. sibirica orientalis*, *virginica*, the common Water Iris, *Iris Monnicri*, and others in wired enclosures.

German Irises are grown in masses of hundreds, and form broad margins to the walk in the lower part of the grounds. The varieties are numerous, the greater part being very choice. *Iris Kæmpferi* is also largely grown, and in different positions to obtain the best results. One very fine bed is in a sunny position on the lawn, with water laid on and a permanent pipe fixed to swamp the plants in the summer months. This bed has not been long established, but shows every prospect of success. Mr. Chamberlain takes great interest in all the Iris family, and is said to never get weary of alterations by way of trials for ascertaining their particular requirements. He has also a very good, though not an extensive, collection of rock plants.

Herbaceous borders are extensive, and not planted on the dotting or sprinkling system, but in large irregular masses of four or five dozen plants of a kind together. One of the borders has recently been planted with kinds that grow from 2 to 3 feet high, such as dwarf Sunflowers, Asters, Lupins, *Pyrethrums*, *Lychnis*, *Delphiniums*, *Centaureas*, *Campanulas*, *Heuchera sanguinea*, *Geum coccineum*, and others of similar stature. Another is planted with clumps of Lilies, Flag Irises, and *Papaver orientale*, with a deep border of *Violas* in bold masses of colour. A third border is planted with Cape bulbs and such plants as *Hemerocallis*, *Montbretias*, *Anthericums*, *Alströmerias*, *Hyacinthus candicans*, English and Spanish Irises, and varieties of *Gladiolus*, of which hundreds are grown. The front of this border is to be occupied with dwarf annuals, in masses of one colour, such as the *Eschscholtzias*, *Godetias*, and others of the same nature. A fourth border, a very large one, affords space for a fine collection of perennial Asters, *Helianthus*, and general herbaceous plants. The herbaceous borders at Highbury must afford waggonloads of flowers in their season.

Spring flowers are largely grown in all their forms, among which Anemones, *Ranunculus*, *Aubrietias*, *Alyssum*, *Arabis*, *Polyanthus*, and Pinks have their separate beds, while the shrubby borders are mixed with *Crocus*, *Narcissus*, and *Snowdrops*. Large spaces of the lawns and wide bands in the grass, parallel with the carriage drive, are studded with *Narcissus* and *Crocus*. Summer bedding is also represented, and Stocks, Asters, *Zinnias*, *Salpiglossis*, grown to produce masses of colour of each kind respectively. Mr. Chamberlain takes great interest in all outdoor alterations and planting, spending hours of the day in the grounds when at home. Several acres have been added to the grounds of late, which are being planted to match the old part of the park.

Roses and Violets are among the favourite flowers of Mrs. Chamberlain. As has been mentioned, a large house is devoted to the former for the winter and spring supply of blooms, while in the summer they are grown in a roserie encircled by low hedges, as well as in beds in different parts of the grounds. The favourite colours are massed, and in the Rose garden a colony of Lord Penzance's Sweet Briars is found. Violets are grown in frames, but Mr. Deacon has not yet been able to produce them in the form and with the ease he did in the southern counties. They are essentially flowers of the country where the air is clear, and are rarely seen in finest condition in gardens near populous towns; he will not, however, be quite comfortable till he has mastered their production so far as is culturally possible, and it is hoped he will succeed in the endeavour. The Highbury breezes suit him very well, and his excellent helpmeet, much better than did the balmy air of the south-western counties.

THE KITCHEN GARDEN AND WORKERS.

The kitchen garden is not extensive, and only the vegetables most wanted are grown, no space being wasted. These are Asparagus, Peas, and Celery, with salads in abundance; but extra ground has been taken in for vegetables, and the supply will be proportionately increased. The fruit trees have been pruned root and branch, the branch pruning, however, having been wisely devoted to thinning. The results will be seen another year, as it is impossible, as many inexperienced persons suppose, to make fruitless trees fruitful in one season. An orchard has also been planted, and will in due time afford a supply of useful fruit.

It will have been noticed that the term "gardeners" has been employed. This is because Mr. Chamberlain has two responsible men. Mr. Burberry is entrusted with the care of the Orchids, and Mr. Deacon (head gardener) with everything else, both outdoors and under glass. Two able men they are, and both have a high conception of duty; or, in other words, are as trustworthy as they are competent, and work together most amicably. The many workmen are treated with consideration, consistently with the discharge of their duties. Half the young men are released on Saturday afternoons alternately, so that they all have a fortnightly half-holiday; and labourers are allowed to do work by the "piece," such as mowing in the summer, so that if they like to make an extra push or put in extra time they can gain a day, or most of a day, a week for their own gardens without any loss in wages. This is altogether better than begging for time, and grumbling if it cannot be granted. They simply earn it, and have it as a right, thus enjoying it the more.

Enough has been said to show that Highbury is one of the most cherished gardens in the kingdom; that its distinguished proprietor is one of the most ardent of amateur gardeners and greatest of patrons of the art he loves; that his men are well treated, and may be happy if they will; and it only remains for us to thank Mr. Chamberlain most cordially for the privilege of an inspection, so readily granted, also Mr. Deacon and Mr. Burberry for their courteous attention, which made our visit, if brief, so pleasant as to engender a desire for another look round.

[The illustrations of the structures in the foregoing note are from photographs taken by Mr. J. A. Draycott, New Street, Birmingham.]

NOTES ON HARDY FRUITS.

CHEMICAL MANURES FOR FRUIT TREES.

GARDENERS as a rule do not pay so much attention to the use of the so-called "chemical manures" for fruit trees, with especial regard to the time of application, as the subject demands. All those who have given the matter careful thought, or who have endeavoured to compare the results obtained from dressings at different seasons of the year, have come to the conclusion that the period at which the manure is given, and the condition of soil and weather then prevailing, have a very marked influence. The subject has been brought prominently under my notice recently, because in the course of correspondence I received a letter from one of the most distinguished agricultural chemists of the present day; the following passage occurs:—"I am quite against the suggestion of nitrate of soda and sulphate of ammonia as fruit manures. 'Leaf forcers' we might call them, but not favourers of quality in fruit. Organic manures, such as shoddy, horn, fish, and bones, are of all nitrogenous manures the most useful for fruit."

I have only replied to this as a gardener who has tried both the manures named and not as a scientific chemist, but my experience and

the opinion founded thereupon is that if used at the right time they exert directly or indirectly a very material influence upon the "size" of fruit, and therefore upon the "quality" from a salesman's point of view, which many of us have to study nowadays. The first effect is undoubtedly upon the leaves, but we all know that without good leaf development we cannot insure good fruit, on the other hand we also know how great a check is given to fruit by injury to foliage. In consequence the art of using such manures to the best advantage consists in applying them so that the stimulus is felt when the first rush of growth is past, and particularly with regard to the very soluble and quickly acting nitrate of soda, which seems to produce the best results after the fruit is set and swelling. Unless I am mistaken this is the opinion of many leading scientific and practical horticulturists. Therefore may we not term these stimulants both "leaf forcers" and "fruit helpers?" I am inclined to think so. What say others upon this point, for it is one that concerns many?

EARLY APPLES KEEPING LATE.

There was a general outcry last season that Apples were not keeping well, but while this is true with regard to some varieties, it is strangely at variance with my experience of several early Apples. It should also be pointed out that many varieties were ready for gathering earlier than usual, which would prolong the season considerably, and explain to some extent their failing a few weeks before their general time. Two particularly early Apples—namely, Manks and Keswick Codlin, have surprised me by keeping as fresh as possible until the present date (March 3rd), and they will last for a week or two yet. On several occasions I have had them over Christmas, but I do not remember having them so fresh in March before. Worcester Pearmain is nearly as good, as well as Stirling Castle, Golden Noble, and Cellini, which are usually over by this time.

Do we fully realise how great an influence efficient fertilisation has upon fruit swelling and keeping? One of the most successful growers of hardy fruit for market known to me attributes in a large measure his regular crops of even fruits and their long keeping qualities to the thirty or forty stocks of bees he has had for many years. I have examined many thousands of Apples at different times, and where fruits have not kept so well as usual it has been found in numerous instances that the fruit has been imperfectly fertilised, as shown by the fact that only a small proportion of the normal number of seeds has developed. It has also been noted that the first signs of decay or "wilting" appeared on the side where the seeds were defective. Certainly one great cause of Apples not keeping well is careless or too hurried gathering, the slightest bruise in all tender varieties being sufficient to set up incipient decay. Too early gathering of late varieties should be avoided, as it is the precursor of shrivelling.

DOUBLE GRAFTED PEARS.

The advantages derivable from double grafting some of the more vigorous sorts of Pears, those that do not take well to the Quince stock direct, and a few of uncertain habit, have been proved by many growers; yet nurserymen keep comparatively few varieties in quantity grown in this form. Probably this is due to the length of time needed to obtain them of saleable size, the higher prices being scarcely so profitable as a lower rate for those more quickly grown; some nurserymen have, in fact, almost discarded double grafted Pears. I have tried several varieties as the intermediate stock, such as Beurré d'Amanlis and Beurré Hardy, but there is one that I have failed to obtain hitherto, though I believe it has been used with success in the case of strong growing varieties. This is a French Pear known as Nain Vert, and remarkable for its dwarf habit. Whether this is still grown in England I do not know, and several inquiries have failed to bring me any information; perhaps some of your readers may have heard of it. More than twenty years ago I knew one nurseryman who relied upon this almost exclusively as an intermediate stock for Pears, but I have had no tidings of him for a long period. The most satisfactory results that have come under my notice as regards the effects of double grafting have occurred with Marie Louise, Beurré Rance, and Joséphine de Malines, which have given better returns in crops, character, and quality of fruit, than on the Pear or on the Quince stocks direct.

BUDS OF BUSH FRUITS AND FROST.

Black Currants and Gooseberries are very forward in our district, and when we last week experienced a frost within 7° of zero (in a low damp situation), it was generally expected that severe injury would result. Up to the present, however, no damaged buds have been observed, and no doubt this immunity is in a large measure due to the

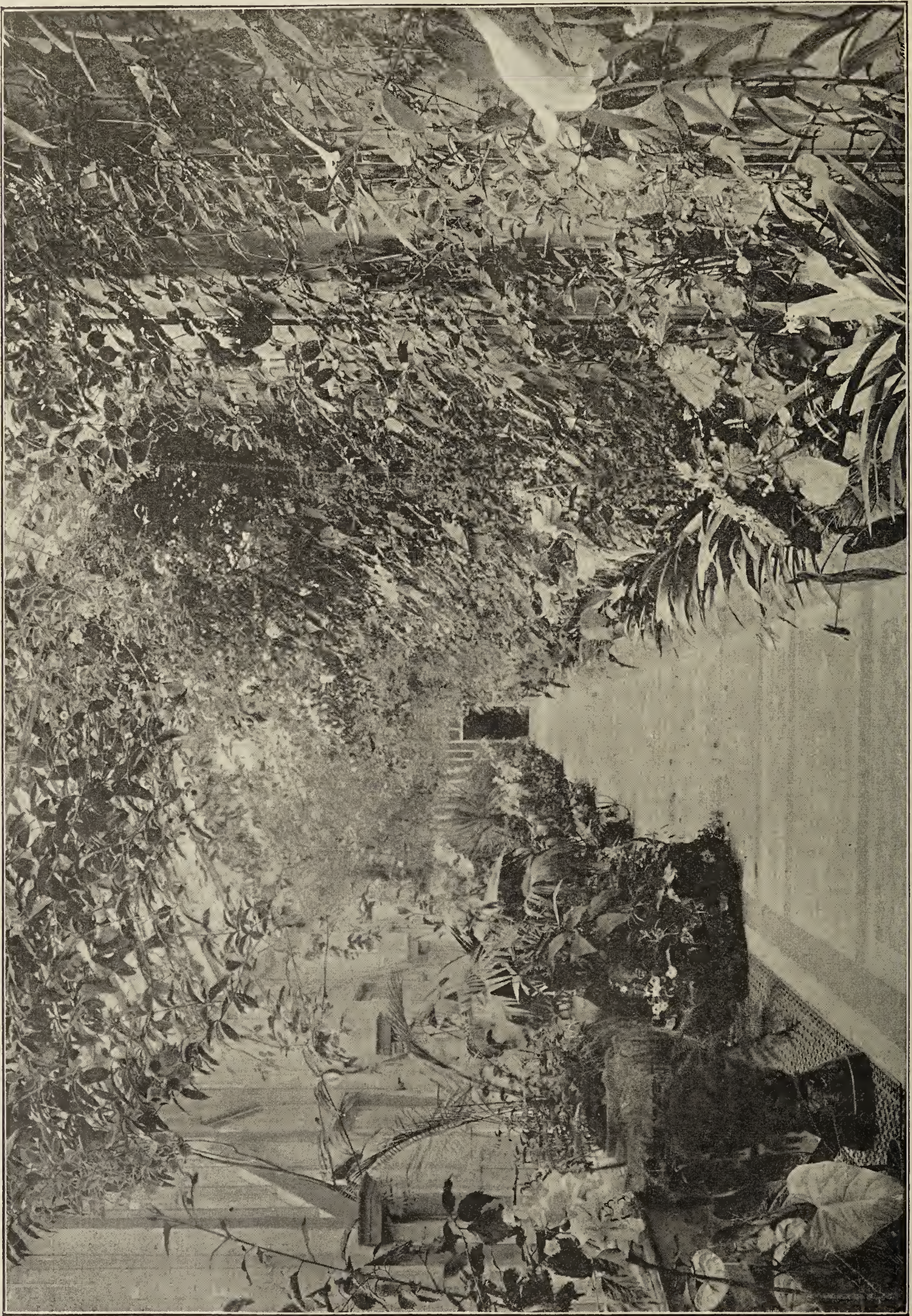


FIG. 38.—CORRIDOR AT HIGHBURY.

comparative dryness of the air at the time. Leaf buds, and even flower buds, will endure very low temperatures when dry conditions have prevailed for some time, a fact with which every observant gardener is acquainted, though we seldom see a reasonable explanation of it. In low districts generally cultivators are painfully familiar with the effects

all the minute parasitic fungi, it spreads very rapidly. It first appears as reddish spots on the upper surface of the leaves; these spots gradually extend, become darker, until the central portion shows the tissue of the leaf is dead, and the whole surface becomes densely covered in the same way.



FIG. 39.—AN ORCHID HOUSE AT HIGHBURY.

of spring frosts when their neighbours on higher land escape, but opinions differ as to what is the actual cause of injury.

"SUNSPOT" OR "SUNBURN" IN STRAWBERRIES.

Though not a widely prevalent disease, this is one which cannot be safely overlooked, for its effects on the foliage are very marked, and like

When this appears late in the season it is very injurious, greatly reducing the strength of the plants, and the only way to counteract its effects is to apply a weak solution of the Bordeaux mixture in use for Potato disease, but this is only a check, for it does not seem to destroy it until it is used of a strength that becomes dangerous to the plants themselves.
—BRITISH GARDENER.

A REMINISCENCE.

IN ruminating about for a subject to write a word upon for the spring number of the *Journal of Horticulture*, my mind seems bent on reverting to the past, now long ago, since the *Journal* and I first became companions. I think it was in 1860, and certainly since then we have scarcely ever missed our weekly greeting, and although we are now both getting on in years the appreciation, on my part at least, is as keen and sympathetic as ever it has been; I know that the *Journal* would be sorry to miss paying its weekly visit to my desk. If I may so express myself, there is a sort of family circle feeling among gardeners towards the *Journal*, engendered, I think, by the able, genial, and practical way it is conducted by those on whom the responsibility rests.

It was at the then beautiful gardens of O. F. Meyrick, Esq., Bodorgan, Anglesea—that forlorn-looking part of N. Wales which visitors to Ireland so well know, and who perhaps will be surprised to hear that this county boasts of being able to grow the best beasts and the best roots of any county in Wales—that the *Journal* and I first met. Mr. Meyrick was one of the most liberal and enlightened patrons of horticulture of his or any other day. His beautiful gardens were then under the superintendence of Mr. Chas. Ewing, one of the cleverest, shrewdest, and most energetic Scottish gardeners who ever crossed the border. I was with him a matter of nine years, and graduated through all the degrees of service, from crocking pots to potting Orchids. To give the young generation of gardeners of the present day some idea of the training the older generation of probationers had to go through, I may be permitted to note a few items of my youthful experience, in the hope that it may induce some of my young gardening friends to prosecute their studies with a better and a stouter heart, and with greater determination to succeed in the object of their hopes.

Schooling in Wales in those days, except for the well-to-do, was one of those things that a little of it had to go a long way. Being one of twelve, I had to turn to at ten to help to keep the pot boiling, and this I did by entering the above gardens as a post and errand boy at 6d. a day. As I got older I was transferred to the plantation, flower garden, and drives department, where I had to put my hand to anything there was to do. From there I was promoted to the position of assistant to a funny and half-cracked old character called Big Dick, whom I went to assist in painting and glazing the houses. After this I joined old David Roberts, the kitchen garden foreman, a devout and good man, whose great pride in his work and faithfulness to his duty I shall never forget. A better kept or a better cultivated kitchen garden than this I have not yet seen.

At fourteen I was placed in the plant department under glass under a foreman of the name of McNab. I was now fairly landed on the lower rung of the horticultural ladder, and my elation at which can be better imagined than described. Here my chief work was assisting in the potting shed, crocking and washing pots, and helping the young gardeners to wheel coal a long distance to the stokeholes and clean out the ashes left—all for 6s. a week. I can remember the longing I had to be allowed to pot a plant or insert a cutting; but for this I had to wait. The first cutting I ever rooted was one of the old *Begonia nitida*, sent to me by a brother then in a garden in England, and placed surreptitiously in the propagating frame. No cutting or plant has ever been watched by me since with greater interest, nor have I ever experienced a keener delight in my work than I did on the day I found my cutting had taken root and was growing.

Gradually as I increased in age and experience I was entrusted with work of greater importance, until at nineteen I had gone through all the various departments of the garden, which included every horticultural aspect of importance. The collection of Orchids was one of the best in the country at the time. *Vandas*, *Saccolabiums*, *Aërides*, and all the East Indian kinds then so extensively grown were represented there, and as for the rare and beautiful *Anætochilus*, I have never seen them so well grown since. The collection of stove and greenhouse plants, including Cape Heaths and New Holland specimen plants, was up to date in every respect, Mr. Ewing making frequent visits to London to buy all the new plants worth having. Ferns also were a special feature, there being two houses exclusively devoted to them, a hardy and exotic one. I vividly remember the pleasure and interest these houses had for me.

I do not think Mr. Ewing excelled so much with fruit under glass. He was too much of an experimentalist, always lifting his Vines and other fruit trees and trying new soils and new manures, thereby constantly worrying the trees out of health and fruitfulness. I have a "warm" recollection of my first lesson in Pine growing. The plants were grown in a deep-sunk pit, and they were so badly infested with white

scale that one lad used to be constantly employed picking them off and sponging the leaves. This I have had to do boxed up for weeks at a time in a fearful heat and without a chance of escape.

Those were the days of small boilers and smaller furnaces, necessitating constant firing all the night through in hard weather, and woe-betide the young fellow who neglected his firing, and was found out; both Mr. Ewing and his foreman used to be about at all times of the night, so there was no chance of shirking duty if anyone were so disposed. As a diversion to ordinary work we often had a few chimneys and flues to sweep. I shall never forget the fright I once had by seeing a young fellow stuck fast in a flue, and who had to be pulled out by main force, nearly suffocated. On other occasions we had to go with a big boat on an expedition of six or seven miles getting gravel on the seashore, and on returning one night we were stranded on the sands through the bad steering of a tipsy captain, and were rescued by the crew of a life-boat close by.

At times in the summer we had to do a little sea fishing with nets, starting at seven in the evening, and returning about six the next morning, often with a good boatful of fish. On one occasion I remember catching sixteen salmon at one haul, one weighing 20 lbs. Although we had to be in the water all night, this used to be a most enjoyable diversion when the weather was warm and the nights light. After this we had three hours' rest before starting work again. Happily those hard times are gone by, never I hope to return; still, there is nothing like a bit of hard uphill work to bring out the best qualities of a man.

In the estimation of the best among us labour is rising more and more in dignity, and in my experience of life I have met many hardworking gardeners who are Nature's gentlemen, and to whom I would much sooner raise my hat in respect than I would to some I have met claiming the title of educated gentlemen. As I have said, these little experiences are mentioned in the hope they may be useful to some struggling young fellows in facing the battle of life with more courage and cheerfulness.—O. THOMAS, *Royal Gardens, Windsor*.

NOTES ON MALMAISON CARNATIONS

VERY marked has been the attention paid to the culture of this beautiful class of Carnations during the past few years, and if we may judge from the new varieties that are being introduced, and the eagerness with which they have been sought after, their culture will become still more general as time goes on. Nor is this to be wondered at, for in places where a large supply of choice cut blooms in variety has to be constantly maintained there is no class of plants that will more amply repay for a little careful attention than these.

Their proper season for flowering is during the months of April, May, and June. They are then welcomed for their usefulness, as the flowers travel well, and their sweet clove perfume is much appreciated; the plants also when in flower may be utilised for room decoration or making up into groups. They may with ordinary care be had in flower during the late autumn and spring months, when they are especially prized. A few blooms, cut with long stems and arranged with a little of their own grass, gives a pleasing relief from the monotony of the *Chrysanthemum* during the autumn, and affords an equally pleasing contrast to the early forced *Liliums* and *Lilac* of the spring.

The practice here has been to select during September some of the plants that show a tendency to throw up a flower spike earlier than others from among the two-year-old plants, and place them in a light airy structure where a brisk heat can be maintained as required. In this way, from a few dozen plants, we have been able to gather blooms during the past four months, and shall continue gathering until the main batch comes into flower.

We find the pink, or the Princess of Wales variety, respond to gentle forcing better than the blush, or Lady Middleton. The last named, a beautiful pink, striped with a deeper shade, is not so generally or extensively grown as it should be, but when well represented is one of the best of the Malmaisons. I find it requires less pot room than the blush or pink varieties, and if anything the soil a little lighter.

The newer forms—Princess May, Mr. E. Hambro, Sir Evelyn Wood, Sir C. Freemantle, and the Churchwarden—have so far with me been rather disappointing in size and form, while in colour there is a sameness about them that makes it unnecessary to grow them all. The Churchwarden and Sir Charles Freemantle are the two best; whether they will be more floriferous than the older forms remains to be seen.

Complaints are sometimes made of the difficulty in growing this class of Carnations well, and keep them free from disease. Soil,

atmosphere, and water are often unjustly blamed for their failure; but, provided a clean stock be secured and careful treatment accorded, they are as easy to grow as most things, and yet with careless or indifferent treatment there is no class of plants that will sooner go irredeemably wrong.

Careless watering and faulty ventilation are the worst enemies of the "Malmaison" Carnation, for those conditions more than anything else encourage soft, flabby growth in the plants. This makes them an open prey to the disease. Lean-to houses or pits should be avoided where possible for their culture, as encouraging a too murky and slow circulation of air. Span-roofed houses and span pits, with the plants raised to the level of or above the bottom ventilation, and standing on a bed of ashes, form an excellent place for growing them. In no case would I recommend syringing, a practice I know that finds favour with some people; but so far as my experience has gone, one to be condemned without qualification.

Having at one time had some difficulty in obtaining good turfy loam sufficiently free from the wireworm to pot Carnations in with safety, recourse was had to charring or burning the turves some time previous to potting. I have always found this the most effectual way of getting rid of this troublesome pest, and strongly recommend it to anyone who may have experienced any difficulty with it. Sufficient odds and ends of wood and prunings can be easily got together and a fire kindled, when a few loads of turf can soon be made sufficiently hot to destroy all life without burning away the fibre. If some of the turves are allowed to remain on the fire until they are completely burned and assume the colour of brick dust, and this, when cool, mixed with the other parts of the soil, it will be found better than using so much sand, and the plants, whether potted or layered in it, take to it most readily.—N. F. BARNES, *Eaton Hall Gardens*.

OPEN AIR TOMATOES.

WHENEVER we are favoured with a good average summer, those who take ordinary pains in the cultivation of Tomatoes in the open are well rewarded. If growers go to work on the right lines a complete failure will not occur, though there is no disguising the fact that open air culture of the sun-loving Tomato in our uncertain climate must always partake somewhat of a lottery. Much, however, depends on the selection of varieties that shall be grown, and after having tried all the presumably best open air Tomatoes, I have a strong word of approval to record for Early Ruby. This variety is of dwarf habit, the lower clusters of fruit proving much the heaviest, these sometimes touching the ground. If the larger malformed flowers are early pinched off the rest will be strengthened and be followed by handsome, medium-sized fruits, which, when ripe, are of a bright red colour and of excellent quality. Laxton's Open Air and Sutton's Earliest of All are also heavy cropping, early ripening varieties. Conference succeeds well in the open, but the fruits are too small for most growers. For cultivation against sunny walls, fences, and temporary screens, I would again recommend Ruby, with Sutton's A1, Ham Green Favourite, Duke of York, Webb's Sensation, and Dedham Favourite. I have had Golden Sunrise, Blenheim Orange, and Golden Nugget all in good condition against sunny walls, and one or more of these may well be grown where variety is thought desirable.

One frequent cause of comparative failure with open air Tomatoes is that of raising the plants too early, and drawing them up tall and weakly. Instead of raising them early in March it is a better plan to defer sowing the seed till early in April in the case of those with only frames and greenhouses at command, a fortnight or even three weeks later answering well when the plants can be raised in heat. In a rather extensive trial I conducted last season, the best results attended late raising, the plants not having received a severe check to their growth before they were planted early in June. What are wanted are healthy, young, but not root-bound plants, 5 inches high, or thereabouts, in 4-inch pots. These, given fair treatment, soon take to their fresh quarters, and are then sufficiently well established to develop strong flowers and set their first cluster of fruit. It follows the earlier fruits are set the better the chance they have of ripening. In 1893 seedlings came up in the open ground gave a crop of fruit, the forwardest ripening well, but in 1895 fewer instances of this occurred.

As already hinted, there is a variety of positions that may be turned to good account in the open air culture of Tomatoes, these including spaces between fruit trees against sunny walls, front walls of greenhouses and forcing houses, fences, outbuildings, shutters and old doors converted into screens, sunny wall borders, and open quarters generally

—the last rather than not make the attempt at all. No particular mixture or compost is needed for them. Only give as much good soil and of the same description as will grow Potatoes satisfactorily, and it will not be the ground that is at fault if failure occurs. It is a mistake, though, to starve Tomatoes at the roots. The notion that poorness and dryness at the roots favour the production of heavy crops of fruit will not bear the test of experience. Change the soil at the foot of dry walls and fences for fresh moderately rich loam, or even ordinary garden soil.

Plants kept confined to a single stem give the best results, and against walls, fences, and screens they may be put out during the first



FIG. 40.—DENDROBIUM WARDIANUM.

week in June, or somewhat earlier in warmer localities, at a distance of 1 foot apart. When plants are scarce dispose them 3 feet apart, and lay in the leader and two side growths, training these 1 foot apart. In the open borders plants may be either dotted among early Potatoes (or the latter may be arranged in rows 3 feet apart, running from east to west. Midway between these plant Tomatoes 15 inches or rather less apart. The latter is the plan I now adopt on a large scale, and instead of a stout stake to each plant we now use 4 feet bamboos, connecting these with a wire strained to stout uprights. Unless these wires are used bamboos will not answer, and stout "Dahlia" stakes must be used instead.

What few other cultural details are necessary must be closely carried out. There should be no delay in training the plants or leading growths as the case may be, and the side shoots, which are persistently formed by either single, double, or triple stemmed plants, ought to be kept closely pinched or rubbed out. The plants may be either trained uprightly or obliquely, the latter method answering well where head room is somewhat limited. Mulch early with short manure. Water occasionally till the plants are well established, and when cropping heavily keep them well supplied with liquid manure. Stripping off all

the lower leaves directly the fruit are about half grown is quite a mistake, as they are required to assist in swelling the fruit. Dusting the leaves with anti-blight powder is a preventive of disease.—W. IGGULDEN.

SPRING SALADS.

THE supply of salad in anything proportionate to the requirements of a large establishment demands a large share of forethought on the part of those responsible, and particularly so when conveniences for such are of a limited extent, and, as is often the case of an unsuitable character. Very much depends, too, on the state of the winter, as a comparison of the present one with that of last year only too plainly shows. At the present time fairly good Lettuce can be cut almost daily from narrow sheltered borders from a September sowing, and the same may be said of Endive, where such provision was made. As a general rule, however, Endive is sown too early in the autumn to be available as a spring salad, and the chances of having it late are still further limited by the protection afforded during the winter months against the issues of severe frost.

Radishes and Lettuce are undoubtedly the most popular of all such crops available in the spring, and among all classes of consumers, the difficulty attending their production largely depending on convenience and the season. In pits heated with hot water sufficiently to keep them frost-proof both Lettuce and Radishes can be grown with comparative ease, but where manure-heated frames and pits only are provided the grower is dependent on the weather for his success to a large degree. In these cases covering with mats, litter, or similar materials must be resorted to every night when frost threatens, and when this is severe and prolonged, as it was last year, this must often be left on during the day as well; and Radishes, which are so quick growing, are soon rendered useless under such conditions.

In a heated pit the case is different, for not only can they have full exposure to light, but, what is equally important, some air as well during the best part of the day. On a mild hotbed Sutton's Early Forcing Radishes sown at the end of January were being pulled the last day of February, or in slightly more than a month. Last season in the same pit they were comparatively useless for want of air and light, sown at about the same or a slightly later date. There is an advantage in choosing one of the selected forcing strains from any of the trade lists; a few days' gain in point of maturity counting for much in some or, indeed, many cases.

For frame work the Early Paris Market, Golden Queen, and Comodore Nutt Lettuces are favourites with everyone; indeed, they are in the whole or in part quite indispensable for forcing. In a heated pit the seeds are sown broadcast over the surface and raked in, or covered with a sprinkling of fine soil. Except in case of accidents, which will sometimes occur, and which did with us last year by mice getting in and clearing off the seedlings just as they put in an appearance above the soil, Lettuces can be grown in about six weeks or so, when a forcing Cabbage variety is sown.

Mustard and Cress almost anyone can grow, and this must be sown with regularity and fresh soil given each time if a continuous supply is in demand. At least two sets of boxes or seed pans must be kept in use, and more than this if daily cuttings have to be furnished, or there will be a break in the supply. Watercress can be had at any time by growing either from cuttings or seeds in pots, pans, or boxes, and is never more tender and delicately flavoured than when grown in a light position under glass.

Witloef Chicory, grown under similar conditions to Parsnips in the summer, lifted as required, and forced in a dark place, makes a good and attractive addition to the salad. It is, perhaps, the easiest of the salad plants to manage, but is not generally appreciated to the same extent as those previously enumerated. The same roots will give two or three cuttings in succession if this is required of them.

Cucumbers for early spring work can be grown only by those who have well-heated structures at their command. Those favoured in having a perfect system of hot-water pipes for bottom and surface heating have an enviable advantage over those who must depend on manure beds for the first crop. Tripoli, or autumn sown Onions, late Celery, Water and Land Cress, Corn Salad, or Lamb's Lettuce, Rampion, and Tomatoes are other additions available for the salad bowl, all of which meet with more or less general acceptance, according to taste. There is a general admission, too, of the medicinal value of green or salad food, and the wonder is that greater effort is not made to obtain it earlier in the spring, and in greater variety, by a larger class of growers and consumers.—W. STRUGNELL, *Rood Ashton*.



THE WHITE BATH AND THE CRESTED MOSS.

THE additional information about the White Bath Moss Rose supplied by the Rev. David R. Williamson, on page 167, is extremely interesting, and it is also gratifying to find we have been able to keep abreast, or rather ahead of the French, in the production of an ideal Moss Rose. The Crested Moss I do not know, at least not under that name, but in visiting old gardens I often meet with varieties of Moss Roses quite new to me, and I usually find great difficulty in unravelling their nomenclature.

HYBRID TEA-SCENTED ROSES.

I have already dealt with several varieties in this section, but in deference to the wishes of "Rosarian" in his practical, appreciative, and entertaining article, I will now give a few notes on the whole class, which he so truly observes is a "much abused one." I think, however, this is a matter that we need not be in the least despondent about, as "new classes," "new methods," and indeed anything new, usually meet with abuse for a time by some individuals who cling tenaciously to old favourites and old ideas of beauty.

Nevertheless, I fancy it requires a bold man to seriously question the great beauty of Hybrid Teas. True it may be that those who have great enthusiasm for the true Teas like the hybrids slightly less, because they have some of the brilliancy of the despised Hybrid Perpetuals, but those who shower their affections upon the latter class can scarcely object to the new comers on the score of attractiveness. The real cause of contention, I think, lies in the difficulty of classification, but this bugbear faces us at so many points in the horticultural world of to-day. We live in an age when there is a perfect craze for novelty, and anything of new form or colour among flowers is eagerly sought after. Hybridists, of course, endeavour to supply the demand, even though by so doing they violate the strict code of rules laid down by the older florists, whose opinions about keeping each section distinct were pretty clearly defined; and though the natural result is a greater variety of attractive flowers, in which class distinctions are difficult to make, I think flower lovers are the gainers rather than losers thereby.

It is really only from an exhibition point of view that the classification of these hybrids becomes difficult. This to a great extent will right itself in time, for as the race becomes more numerous, which it is sure to do, it will naturally form an important class, requiring perhaps a subdivision, on the one side ranging those which most resemble the Teas, on the other those which exhibit a greater likeness to the Hybrid Perpetuals. To the latter division such varieties as Capitaine Christy and Cheshunt Hybrid would be relegated, while Grace Darling is a good example of the type which would form the former section of the subdivision.

Dealing briefly with the varieties individually, and taking them in alphabetical order, I come to that fine but not much grown sport from La France—viz., Augustine Guinoisseau. This has all the characteristics of its parent, except in point of colour, which is white. Bardou Job I do not know, but I have heard it spoken of as especially good for supplying cut flowers. Camoens is of a very attractive rose colour, small but pretty in the bud, and excellent for cutting. Capitaine Christy I have already dealt with under the heading of Hybrid Perpetuals. Caroline Testout I also included in that section, possessing as it does so much H.P. blood; it is, however, a grand Rose of fine form, and ought to be grown by everyone who musters a dozen varieties. I do not care for Cheshunt Hybrid; it is a good doer, and if the flowers are cut in quite a young state they are really beautiful; but when fully expanded, the peculiar bluish-crimson tint they assume render them anything but objects of beauty. Grace Darling and Gustave Regis from a pair of exceedingly good varieties, showing much Tea blood. The first-named I have dealt with in my notes on Teas; the latter is a fine addition to this class, being a strong grower, having flowers of a beautiful deep yellow colour.

Lady H. Grosvenor gives flowers of a pale pink colour, grows freely, and flowers well, but the colour is certainly not so attractive as that of Lady Mary Fitzwilliam. Those who find the latter a poor grower should, if possible, plant it against a low south wall. Langworth Rambler is a wonderful grower, quite adapted for covering rough walls, the colour of the flowers being rather dark crimson. Madame Pernet-Ducher is one of the gems of any section; although only semi-

double, it is delightful in the bud, its canary yellow flowers being tinted with a lighter shade. Marquis of Salisbury greatly resembles Camoens, except in colour, which is red. Pink Rover and Reine Marie Henriette I have previously dealt with. Princess May I have only obtained this year. The colour of the flowers is one always in demand, and I fancy the variety will prove to be of sterling merit.

Reine Olga de Wurtemberg bears flowers of a particularly bright red colour, and is especially useful as a climber for supplying abundance of semi-double flowers. Souvenir de Wootton, a red American Rose, and moderate in habit of growth, is a variety *par excellence* for supplying early forced buds.

Before drawing these brief notes to a close let me say in favour of the Hybrid Teas that I think all true lovers of our national flower should hail their appearance with delight instead of abuse, seeing that they present to our vision such splendid possibilities for the future, for they seem to give promise of a time when we shall have a race of Roses possessing the hardiness of the H.P.'s, with the charm and fragrance of the Teas.—H. D.

POT ROSES.

THERE are many ways of growing the Rose, and not the least important, whether for cut flowers or decorating the conservatory, is to grow them in pots. Given a healthy plant from one to three years old, there should be no difficulty in getting a pleasing result provided one takes a little trouble from the first. Roses are easily managed when a house can be given up to them entirely; but among mixed plants they need more care and judgment. In pruning, always keep the main object—to secure good blooms in fair quantity—in view, and at the same time allow a free circulation of air through the centre of the plant. Steady treatment, especially at first, is necessary; in fact, one needs to follow nature closely, and allow the plants to come on gradually.

A span-roofed house facing east and west is better than a lean-to or a structure facing due south. The latter receives the full force of sunshine during midday, and very little in the early morning and evening. But when built from north to south the plants have the benefit of morning and afternoon sunshine, and are partially shaded at midday. Once fairly started Roses must be kept growing without any appreciable check, or they become weak and liable to insect pests. Liquid manure twice a week will help them, but it must not be strong. A little of it sprinkled on the walls and path of a house is extremely beneficial; indeed, atmospheric feeding is a great point.

Insects are always troublesome among Roses unless one takes early measures and is persistent in the use of a weak solution of any proved insecticide. Kill the first few enemies, keep the syringe at work, and you need have little trouble from insects; but once allow them to get a hold on the plants, and it will need such strong measures that what should be healthy growth is not only crippled by insects, but injured by the insecticide as well. After insects, the most troublesome foe is mildew; but if we take care in watering and do not go to extremes in temperature and ventilation, the early use of a weak fungicide will keep mildew at bay.

The ripening of wood is another point not sufficiently studied. By the time our main crop of bloom is secured, it is quite safe to place the plants in a sheltered corner outside, and we cannot give them the same efficient ripening under glass. The Teas and Noisettes are mostly selected for pot culture, their delicate shades and greater freedom of flowering placing them far beyond other classes for this purpose. Twelve varieties that have succeeded best with me are Anna Ollivier, Catherine Mermet, Dr. Grill, Francisca Krüger, Edith Gifford, Jean Ducher, Luciole, Madame de Watteville, Madame Falcot, Madame Hoste, The Bride, and Niphetos. La France, Caroline Testout, and Viscountess Folkestone are grand among the Hybrid Teas, and I would never go beyond Général Jacqueminot in the Hybrid Perpetuals. All of the Fairy Roses are pleasing, and as small pot plants are perhaps the most showy.—ROSARIAN.

USEFUL PEAS.

MUCH has been published in the Journal from time to time as to the best Peas for early and successional sowings, and doubtless there are varieties more suited to some localities than others. However, my intention in penning these notes is to give my experience of those kinds which succeed well in a locality usually supplied with a very liberal rainfall, and situated between two lofty mountains.

The earliest sowings are made on a south border early in February, and consist of William I. and Chelsea Gem, both of which give us excellent crops ready to gather in May. These are followed by varieties of more recent introduction, and for which there is sure to be a great

demand when their good qualities are more widely known. I allude to Sutton's May Queen and Empress of India. On June 6th last year we gathered our first dish of the former from seed sown on the 13th of March previous. Empress of India was ready for table four days later. Both these are very desirable kinds, and I shall continue to grow them until something better in the way of Early Marrowfat Peas comes to light. To follow the above we sow Carter's Telephone and Telegraph in quantity, as they pod abundantly and fill quickly.

For successional crops sowings are made every ten days, until the first week in June. For these main crop sowings and exhibition purposes the plan so often carried out of sowing in trenches well filled with



FIG. 41.—HEDYCHIUM GARDNERIANUM.
(Half natural size.)

manure, we do not adopt. The practice of doing so on hot sandy soils has much to recommend it; but my experience in low-lying districts with the atmosphere laden with abundance of moisture, has been anything but encouraging. Very much better results follow the digging in of a good dressing of manure in the ordinary way, and, finally, when the drills are got out ready for sowing, a good sprinkling of wood ashes is scattered along them. Treated in this way we find the growth is more consolidated and finer peas are produced; they also crop nearer the base. When the trenching was adopted there was scarcely a limit to the growth, which was gross and sappy, and an easy prey to the mildew scourge, which soon makes short work of Peas, especially when atmospheric conditions favour its development.

For maincrop sowings we find the following varieties give good results:—Duke of Albany, the Duchess, Sharpe's Queen, Magnum Bonum Matchless Marrowfat, and for late August and September, selected Ne Plus Ultra and Autocrat.—C. FOSTER, Aberpergwm Gardens, Glyn Neath.



SPRING NOTES.

AT this season of the year all the Continental and American raisers of new Chrysanthemums are busily employed in sending out their catalogues of novelties and in distributing plants, which they hope will materially add to their reputations in the coming autumn. Mons. Ernest Calvat's catalogue is tastefully printed, and contains several illustrations of his flowers in photogravure, besides a plenteous selection of extracts from English, French, and Colonial newspapers on the subject of his gains.

Mons. Sautel, who a few years ago bid fair to occupy a foremost position by sending out some incurved varieties—viz., Madame Mante, Madame Darier, Camille B. Flammarion, Madame Frederic Mistral, and some promising hairy varieties, has given up his nursery, and will probably not continue the work. Mons. Hoste's nursery at Lyons has also passed into other hands.

Mons. Simon Délaux, one of the oldest and best known of the French growers, but whose seedlings have not, as a rule, made much of a mark in England for some few years past, is sending out several instalments of dwarf early flowering varieties, besides a set of the ordinary large flowered November sorts. He has nowadays to contend with a vast amount of competition from his fellow countrymen in the same line of business, and during the past two or three years several new rivals have appeared on the scene. The present season forms no exception to the rule.

Mons. de Reydellet, once almost as well known as Mons. Délaux, still continues the work, and is sending out twenty new seedlings which are stated to have been awarded ten silver and silver-gilt medals during the past season at Continental shows. A very long time has elapsed since we had anything of very striking merit from an English standpoint from this genial and enthusiastic cultivator.

Many of these continental varieties are far too highly priced for ordinary growers to purchase them as a matter of speculation, and the wonder is that importers on this side of the Channel introduce as many of them as they do. Quoting from only two of these foreign catalogues I find the prices asked vary from 12, 15, 20, 25, to even 30 francs apiece for small rooted cuttings.

Manifold and diverse are the vagaries of continental Chrysanthemum nomenclature. A selection at random comprises such queer appellations as Rachais, Madame Mécus de Proli, Eboris, Aymard de Paul des Heberts, Juvem, Flégier, Olbers, Mygale Messire de Guesclin, and Mr. Chanzenque. It would, of course, be a strange inconsistency if our continental friends did not treat us to several new varieties bearing old names, but when the new French N.C.S. undertakes, as we all hope it will, the revision of nomenclature they will be able to reply to our oft repeated complaints on this score.

Turning to the American lists, Mr. Spaulding announces twenty-six novelties of his own and others, which he says have all been tested two or more years. He gives a score of pretty little photo-engravings of American novelties by way of illustrating their merits. Other Americans who join in the work are the well known veteran grower of Philadelphia, Mr. W. K. Harris, one of the earliest American seedling growers; Messrs. E. G. Hill & Son, Messrs. Nathan Smith & Son, Messrs. Dörner & Son, Mr. J. N. May, and Messrs. Pitcher & Manda.

Chrysanthemum literature has during the past two or three months received several additions, the treatises by Mr. W. Wells and Mr. Owen being first in the field in the cultural department, Mr. H. J. Jones' beautiful Chrysanthemum Album, with its thirty-six large photographic reproductions, being quite a unique departure. Another book just to hand from Melbourne, in Australia, shows that the interest in the popular flower is still maintained in the Colonies, and one just published at

Lyons by Messrs. Chabanne & Choulet is also an excellent proof that growers in France will soon have no lack of advice in the art of producing big blooms for exhibition.

Yet another is promised. Mons. Anatole Cordonnier, a well-known Chrysanthemum enthusiast, at whose house Mr. Edwin Molyneux, Mr. Harry Laing, and I were generously entertained a few years ago when on a visit to Roubaix, has in the press a work entitled "Le Chrysanthème à grande fleur." Those who know this gentleman personally will be able to form an opinion of the thoroughly extensive way in which he will handle the subject. Mons. Cordonnier is the Secretary of the newly constituted Chrysanthemum Society at Lille, and knows more about growing the Chrysanthemum for the production of large show blooms than many of his fellow countrymen.

Advices from New Zealand confirm the impression that there is no abatement in the Chrysanthemum fever there. One correspondent alludes to the plants being generally in a very promising condition indeed, and says the prospects of the season next April are better than last year. Another writer grows eloquent on the appearance of his plants the last week in January, although a series of heavy gales has somewhat damaged them by breaking their tops. Such accidents however, are not confined to New Zealand, a month or two before the flowering season.

Several Australian specialists in Chrysanthemums now issue catalogues of novelties, although they are necessarily somewhat behind us in point of time, often a couple of seasons. Mr. S. B. Levick of Sydney has an extensive and up-to-date collection in all sections. Messrs. Brunning & Sons of Melbourne have another. In colonial raised varieties I notice the names of Fair Maid of Adelaide, Lady Gormanston, Mrs. J. W. Tibbs, Pride of Launceston, Miss May Fraser, and Robert Williams; while probably several others with unfamiliar names, such as Fortunatus, Mrs. A. Jacobs, Mrs. Crawford, Mrs. H. Scott, Mrs. James Murphy, and Swanmore, come from the same source.—C. H. P.

ENGLISH CHRYSANTHEMUMS.

THE raising of new varieties, both English and foreign, has become an important phase of the Chrysanthemum mania, if I might so term it. To English raisers belong much credit for the improvement manifest in many of the varieties. In the Japanese section, however, what are strictly termed English Chrysanthemums cannot as yet compete with those raised in other countries. When we take into account the individual excellence of the flowers undoubtedly the lead is held by French raisers at the present time. Many varieties raised in the United Kingdom are no doubt the result of seed obtained in a more favourable climate. Although varieties emanating from such a source receive at times the credit of being English raised, it is a claim that I regard as a somewhat dubious one. Take, for example, those two charming yellow flowered varieties Duchess of York and Edith Tabor, the former raised in Scotland, and the latter in Suffolk; but the actual seeds were not produced there. When we turn to other sections we can fairly lay claim to have done more than any other country in raising and introducing varieties of improved form. Especially may we quote the incurved, and note the numerous additions that have been made from time to time. The great increase in single flowered varieties owes much to English enterprise, and in other small flowered sections an increase is noticeable most favourable to ourselves as raisers.

A few notes on individual kinds will be interesting. Passing the older ones with the remark that Elaine is still the purest white flowered Chrysanthemum in cultivation. The year 1887 marked the era of new and improved types of Japanese varieties. The introduction of Avalanche caused quite a revolution in the ideas of cultivators. As an amateur's flower it is still *par excellence*, though the present craze for large blooms has rendered this variety useless for exhibition. The year previous Mr. Laing brought out Stanstead White, which has received more awards for premier bloom than any other, and is still one of the best of Japanese varieties when in perfect condition. Passing to more recent times, we find the number of English raised kinds increasing, thanks to the enterprise of men like Mr. R. Owen and Mr. H. J. Jones as nurserymen. To the former belongs the credit of introducing Viscountess Hambledon in 1892, which is especially well grown in Scotland as an exhibition flower. Robert Owen also owes its origin to the same source in the same year. The Japanese incurved type of bloom is thoroughly represented by this

variety, with its solid mass of petals. Other varieties standing to the credit of Mr. Owen are Excelsior, unique in point of colour; G. C. Schwabo, itself popular; R. Dean, in colour most brilliant; Rose Wynne, chaste in its blush white tinge, and remarkable for the massiveness of its petals. In 1893 Charles Davis was obtained, which in the recent election noted in the Journal stood equal with any variety in a long list of the best sorts.

To Mr. Jones belongs the credit of giving us such sterling varieties as Mrs. W. H. Lees, Duchess of Wellington, Miss M. Goschen, Lady Randolph, W. Wright, Alice M. Love, Arthur Payne, G. Langdon, Mrs. G. Gover, and Mrs. H. Chiesman.

Turning now to private enterprise, Mr. C. E. Shea occupies, as a raiser, a high position. The variety Mrs. C. E. Shea, although not seen last year in its best form, still deserves prominent mention. Mr. Shea in 1894 sent out Miss Dorothea Shea, and in the present year Maggie Shea makes her *débüt*. Both are desirable kinds. Mr. W. Seward, who raised that unique coloured—dark crimson—variety in 1892 which bears his name, deserves a position of honour amongst English raisers, if only for that single addition. John Shrimpton, by the same raiser, is worthy of mention. Mr. Seward has also succeeded in raising this year such sterling varieties as Dorothy Seward, John Seward, and Mrs. John Shrimpton, in itself a splendid achievement for any man.

Mr. Briscoe Ironside, with Lago Maggiore and Arona, deserves mention, but whether the actual results were obtained in England or in the more favoured climate of Italy I am unable to say. Mr. H. Weeks, Derby, with Mrs. H. Weeks and Lady Biron, the result of crossing Mrs. Alpheus Hardy and Puritan, are worthy examples of English energy. Emily Silsbury owes its introduction to Mr. Martin Silsbury, Shanklin, Isle of Wight, and should occupy a good position on exhibition boards in the near future.—E. MOLYNEUX.

(To be concluded.)

EARLY POTATOES.

How much the present time and weather are stimulating the early planting of Potato tubers, in the hope of securing specially early crops. Were Potatoes quite hardy plants that expectation might be justified; but we may never forget, for spring frosts rapidly create object lessons for us, if we do, that Potato plants are exceedingly tender, and the least exposure to frost is productive of exceeding harm. If by planting towards the end of February and early in March of what are naturally precocious varieties, inevitably resulted in the consequent above-ground growths which appear in April, not only remaining unharmed but also growing freely, then would early Potato culture be a happy proceeding indeed.

Such a condition of things may be found during the spring now at hand, because he may look for all sorts of weather eccentricities in these modern days, the present winter being an example. Yet there is left to us enough of wisdom and of common sense to know that the chances are altogether the other way, and that sharp and destructive white frosts may not only come in April, but in the following month also; and then if unprotected, what becomes of the precocious Potato plants? I would very much like, if anyone can carry the suggestion into practice—and to any gardener it is easy enough—if, say, a peck of some early Potato were planted now on a warm border and allowed to take all usual risks without protection, and a peck of the same variety in precisely the same present state were put into a shallow box, and stood in a very moderate temperature near the light, and occasionally sprinkled with water.

Assuming that in both cases the eye buds were dormant when the experiment began, a little later disbudding of all but say two of the strongest shoots could be done, and even a little fine leaf soil might be shaken amongst the tubers, and thus stimulated make root growth, finally planting on the same border from four to five weeks later than was the date of the other plantings. In a short time a safe test as to the advantages derived from either method of planting might be obtained, and the best and earliest crop would be entitled to the award. If the earliest planting product be materially protected from frost, some consideration should be given, not only to the labour involved, but also to the value of the material employed. The object should be to ascertain how far premature outdoor planting of early Potatoes did or did not prove more satisfactory than the much later planting of well-prepared tubers.

Where, as is the case in many gardens, materials are at hand for erecting over a precocious piece of Potato plants a rough form of frame-

work, on which can be thrown at night some mats or other protection, then much that is very helpful is done. In all good gardens that is common practice, but in myriads of small ones and on allotments, no such protection is afforded. Yet in these cases fine open weather such as we have been of late experiencing tempts to unduly early planting, and the most that can be done when tops come through the ground ere white frosts have departed is to draw soil over them, the temporary expedient of a night, for next day the leafage again is exposed, and only by literally burying the tops in a ridge of soil—practice that is really very harmful to the leafage—can this tender produce obtain even temporary protection. When white frosts do cut down young Potato tops to the ground, as so frequently happens towards the end of April and during the month of May, the result, as we all know, is not only most disastrous to the crop.

Two things in connection with undue early planting may be assured. One is that the Potato plant is as tender to-day as ever it was. The second is that late white frosts are far more likely to prevail in spring than to be absent; therefore those who tempt Nature by injudiciously planting so early, and furnishing no protection do so at their own risk. It is sometimes assumed that this early planting is beneficial to Potatoes, because rooting of a useful kind takes place even before the leafage appears above the ground. That is very doubtful doctrine. Roots are emitted in but the slightest degree until leaves are put forth. The growth or development of root and leaf is coterminous or collateral.

One is dependent on the other. When tubers are started in shallow boxes, having both moisture and fine soil to encourage root growth, and warmth to promote leafage, then roots are largely produced, because the leafage is fully exposed to the light. When tubers are planted some 5 inches beneath the surface of the soil, the shoots or sprouts they put forth have to rise through that thickness of soil, until light is found, and leafage then is formed. Until this latter development takes place root action is limited, and as the ground so early in the season is usually cold, must be naturally slow. On the other hand, similar soil a month later is some 3° or 4° warmer, hence root action when it does begin is all the more active. It is one of the useful characteristics of Potato tubers, that whilst they have innate power in the fullest of light and exposure to air to put forth stout green shoots from eye buds, yet so long as kept dry growth rarely exceeds 1 inch in length, or are roots emitted. In that condition seed tubers may be kept for several weeks. Thus, beyond what has so far been done there is no tuber exhaustion. It is only when moisture or soil is added that roots are put forth, and growth of a healthy kind ensues.

When tubers are left in darkness we know too well, if temperature conduces to growth, what elongation and exhaustion ensue. In the former case the growths having found light are content. In the latter, the search for light to satisfy what seems to be an insatiable craving on the part of plants, never is gratified, and shoots have gone on pushing to indefinite and astonishing lengths. How much and forcibly this fact tends to show us the importance of so storing our seed tubers that they never shall have in pushing shoots to be insatiably searching for light, but that light and air in abundance be furnished at the outset. If Potato growths have this craving for light when in darkness, humanity has also a similar craving for new Potatoes after many months feeding upon old ones. It is that very craving which underlies this anxiety for precocious planting, and perhaps excuses it. It is a craving we all desire to gratify. What a tribute do we thus pay to the merits of the Potato as an article of food?—A. D.

TABLE DECORATIONS.

To carry out dinner table decoration in large or even moderately large gardens, so as to provide constant change, causes a good deal of worry and responsibility. To use cut flowers every night proves a great slaughter unless they can be judiciously employed afterwards for other forms of decoration. Flowers for this purpose alone have to be produced in large quantities at a time where distinctive features and striking arrangements are aimed at. We have on several occasions used no less than 250 double Daffodils or Tulips for single occasions. If the dinner table were the only place for which flowers were required the strain on the producer would not be so great, but it frequently happens when the greatest quantities are needed for these purposes that some dozens of vases have to be filled for other parts of the dwelling.

A few examples may be given of how tables may be effectively decorated without recourse to cutting flowers on every, or nearly every, occasion. At this period of the year, say for tables suitable for twenty

persons, seven plants in the centre would be required. These may be *Deutzia gracilis* in 6-inch pots mossed on the surface, arranged in silver or other suitable vases. The plants must be well grown and well bloomed, being light and graceful. For each side, and to angle the central plants, dwarfier plants in 4 and 5-inch pots may be employed—say six on each side. These can be stood on mats, and the pots hid with crinkled paper of the very lightest shade of pink. Any suitable plants may of course be substituted for the sides. A thorough change can be made for the next night by employing *Crotons*, with vases or without. If the latter, light yellow crinkled paper may be employed. *Croton Countess* is excellent for this purpose, or that variety can be used for the centre, and *C. aighurthensis* for the sides. The two go well together.

For a third occasion a green arrangement will suitably follow, and if possible without the use of crinkled paper. Nothing is better than *Cocos Weddelliana* or *Geonoma gracilis*. These two go well together, and the latter will do for the centre, with the former for the sides. In no case should the side plants be too high, or the table looks confused. If the central seven plants are well elevated, this allows of slightly larger plants being used on the sides. *Asparagus*, if suitable plants are grown or made up, looks even more effective than *Palms*. Any shallow glass dishes do for the sides when plants are made up. These can be filled with clean green moss, and the sprays arranged in them. We employ the French moss dyed in a natural colour; the dark shade we do not admire. This we steep in water, which gives it a perfectly fresh appearance.

An agreeable and striking change may be made with well grown examples of *Epacris* all of one shade of colour. The plants must be well grown and well flowered for the centre in 6-inch pots, and for the sides in 5-inch. The pots may be covered with crinkled paper as near the colour of the flowers as possible. These coloured papers vary a good deal, especially under the electric light, so that they should be tested previous to employing them. The side plants may be varied with rose-coloured *Tulips*, after the style of Cottage Maid or pink *Primulas*. A table, although a little heavy, but one that appears to be always appreciated, is furnished with *Lilacs*, *Charles X.*, and well grown examples of *Lily of the Valley* down the sides. We prefer the *Lilacs* in cups because they are often a little bare, and when they can be lowered some of this is taken off, and a few suitable *Fern* fronds remedy any other defects. The last example that will be given is *Dracænas*, such as *angustifolia* and *superba*. Highly coloured examples of *terminalis* may be employed throughout the table, the same as advised for *Crotons*, only rose-coloured paper would be required.—O. M.

GARDEN PESTS AND ANTIDOTES.

SOME of the most malignant enemies of useful crops are not insects, but for convenience of treatment they are placed in the same category by cultivators. As a preliminary to a series of articles on the destruction of garden pests, I will refer briefly to some of the leading groups.

MOLLUSCA.—The term *Mollusca*, derived from the Latin *mollis* (soft), was applied by Cuvier to denote one of the great primary sections into which the animal kingdom, in his system of classification, was divided. It embraces the cockles, whelks, snails, and others of a similar nature. Our rivers and ponds abound with examples; but happily only a few British molluscs inhabit the land, and even these comprise but few species of two or three genera. These include the air-breathing *Gasteropods* called *Inoperculata*, such as snails (*Helix* species) and slugs (*Arion* and *Limax* species), also pond snails (*Lymnæa*). These possess a distinct characteristic in a foot situated behind the mouth, and running along the under surface of the body, by means of which they glide along, ascend and descend plants.

Reproduction is effected by eggs enclosed in *nidamental capsules*, generally deposited in small masses, in rubbishy places as regards snails, such as hedge hanks, foot of walls, or tree stumps; and slugs on or in the ground. Snails carry their houses on their backs when foraging, which is only in the summer time, for they sleep all the winter and sometimes the whole year round. The song thrush (*Turdus musicus*) is very fond of the garden snail (*Helix aspera*), cracking the shell on a stone and then billing out the contents.

Slugs have a "mantle" instead of shell, and they carry it so as to shield their most vital parts when roaming, and when alarmed draw the rest of their soft bodies beneath it. They are said to hibernate like snails, but I never found them do anything of the kind when there were tender Lettuces and other plants about, either in the ground or out of it, when the weather was mild. Like all vegetarians they have an enormous

appetite, which is whetted by drought and frosty weather, but when the clouds lower and there is prospect of either dew or rain, out they come from their hiding places and do their best to make up for lost time by feeding and fattening on what they can find. In the winter they only descend to be out of the reach of frost, and with eelworms find their way into the hearts of Celery, thriving also on Jerusalem Artichokes. They are ravenous in the springtime, often devouring sprouting seeds, that is, young plants before they reach daylight, and then the seedsmen is blamed for supplying bad seeds!

CRUSTACEA.—To this class of animals belong the crab, lobster, and shrimp, very nice things in their way and as much relished by mankind as woodlice are by fowls. Woodlice belong to the order of crustaceans called *Isopoda* (equal-footed) and to the family *Oniscidæ*. Britishers term them woodlice, Kent men, however, call those rolling themselves into a ball "pea-bugs," and in America our kinsmen give them the name of sow-bugs. Everybody is familiar with them, not only for clearing away vegetable and animal detritus, but for attacking living plants, luscious Peaches, odoriferous Melons, beefy Mushrooms, and anything that is juicy and good. They love Orchids as dearly as does the Colonial Secretary, especially their roots, and are as partial to Maidenhair Fern as are ladies. Woodlice carry the eggs in a thoracic pouch, and a whole family of freshly hatched young ones may sometimes be found huddled up on the under side of the parent. That is the habit of the domesticated woodlouse, but those which attack *Primroses*, *Saxifragas*, and *Strawberries* act differently, the eggs being enwrapped in a cottony substance, and the parent leaves them thus in soil with a legacy of vegetation around them, which is sure to start into growth with the spring's sweet breath, and about which time they also may be seen emerging in pinky sheen from the fluff, soon perishing of hunger, for they must feed often and grow right away if to attain maternity.

MYRIOPODS.—This order of animals is distinguished by the mature representative being divided into numerous segments, each bearing two or four feet, and severally terminated by a single claw. When young they have only three pairs of feet, then they grow by feeding, get more segments and more feet, mounting up at last to a hundred. There are two sections of these animals—the *Chilognatha*, with mandibles not perforated, but adapted for ordinary biting and chewing; and includes the family *Julidæ* (Snake Millipedes), of which the genus *Julus* comprises the destructive species.

They live on vegetable matter both living and dead, scooping Potatoes, making holes in Carrots, feeding on roots, especially the Bean family, Cabbage tribe, and both the roots, stems, and fruits of Strawberries; indeed, they are not very particular, but fasten on Vine roots, to which they are often attracted by the mulching and the bones. When disturbed they coil up into a ring. They are destructive pests, but fortunately Nature provides checks to their increase, the family *Scolopendridæ* (centipedes) being carnivorous.

The sub-family *Geophilidæ* includes the familiar snake-headed centipede, *Geophilus longicornis*, not unlike a slender yellowish-white long thread, about 2 inches in length, with a multitude of feet on each side, by means of which it moves along with a sinuous motion more or less undulating; it has no eyes, yet can follow its prey with extraordinary dexterity, being usually found where millipedes congregate. The parent coils round its eggs, and the young hatch out in about a fortnight.

ARACHNOIDEA.—This group of animals (in descending order) commences with the scorpion and ends with mites, belonging neither to the crustaceans nor to insects. Crustaceans breathe by gills, arachnoids (spiders) breathe by something called a pulmonary sac placed at the base of the abdomen. Spiders have four pairs of legs, the front pair modifications of the palpi, head merged in the thorax, no line of separation being drawn. They are carnivorous, grand insect killers and eaters.

The order *ACARINA* or mites are fearful pests, the *Tetranychis* spinning mites or "red spider," being amongst the worst enemies of the gardener's crops, both outdoors and under glass. They belong to the group *Trombidinæ*, and are near allies of the *Trombididæ* of the same group, or harvest mites, which section embraces the Ivy and Gooseberry "red spiders." *Acarididæ* are even nastier customers, as the section *Tyroglyphidæ* furnishes the root and bulb mites, also the *Phytoptidæ*, or gall mites, which it has been stated have "never more than two pairs of legs," and as such have no business amongst the *Arachnoidea*. How is it that they sometimes have six and even eight? Murray's place suits them to a nicety, therefore we will leave them, for they do all the damage in the four-legged condition, and that is of most consequence to cultivators.—G. ABBEY.

(To be continued.)

THREE USEFUL PRIMERS.*

WITH the rapid growth of a love of gardening has sprung up an ever increasing demand for horticultural literature. Weekly publications are fully appreciated, but they are not enough for amateurs and novices generally; they want in addition handy books of reference of a comparatively cheap yet thoroughly reliable character. That such is the case few men have better opportunities of learning than myself. As a teacher on horticulture I am frequently asked at the end of my lectures for cheap works on gardening. Up to quite recently there was only Wright's "Primer of Horticulture" that would meet the case, no better shillingworth ever having come under my notice. Now, we have three new and excellent primers, each honestly worth half-a-crown, but which are sold at 1s. each, and they must inevitably become extremely popular. They contain a surprisingly large amount of information, concisely written, well printed, instructively illustrated, also neatly and serviceably bound. For the purpose of impartial review, the first taken in hand is that bearing the title

GREENHOUSE AND WINDOW PLANTS.

This, as pointed out in the preface, is a posthumous work, as it was written by the late Mr. Charles Collins, a young man not unknown to the readers of the *Journal of Horticulture*, and who was cut off on the threshold of what promised to be a useful, if not brilliant, career. Mr. J. Wright, the Editor of this *Primer*, disclaims all credit for its excellence, preferring to think the lamented author would have completed the work in a more satisfactory manner. Greenhouses are now as "plentiful as Blackberries," nearly every enthusiast who can afford a small plant-growing structure not resting content till he has one. Those who have already succeeded in their wishes ought to possess a copy of the *Primer* under notice, and all who contemplate building should certainly invest in one before commencing, as there is a most instructive chapter on the construction of greenhouses, which should be well studied, several illustrations of simple structures helping to show what so many amateurs ought to know.

Following this, equally reliable information is given as to the cheapest and best methods of heating greenhouses, including tables showing at a glance the amount of piping needed to keep up certain temperatures each house would require. In this chapter are also included various hints on stoking, ventilation, and the general management of a greenhouse. Then we have remarks on the various appliances and materials required by all who would succeed in plant culture, soils and manures coming in for a good share of attention. Particularly interesting and instructive is the chapter on methods of propagation by means of seeds, cuttings, stems, and leaves, a simple method for amateurs being shown in fig. 42. A, pot plunged in damp moss; B, glass.

After general cultural directions we come to chapters on various plants divided into groups. Spring and summer flowering plants are treated in detail, sound information accompanying each order or species.

Bulbous and tuberous-rooted plants are equally well treated. Next comes a chapter on ornamental foliage and berry-bearing plants, followed by another on climbers, with still another on trailing plants equally complete. Nor is this all, for Ferns and greenhouse rockeries are ably, if briefly, treated upon. The selections given are most reliable, and comprise all plants that are worthy of recommendation either for greenhouse or window culture.

Not satisfied with this, we have yet a chapter on Orchids for beginners that will not lack appreciation, while chapters 14 and 15 are devoted to hints on the selection and cultivation of plants for unheated greenhouses and windows respectively, finishing with a few useful notes on the extermination of insect pests and plant diseases. A capital index completes this really remarkable shillingworth.

GARDEN FLOWERS AND PLANTS.

When I first scanned the pages of this *Primer* it occurred to me that its author, Mr. J. Wright, had been a little too sparing of cultural details, but on going through it a second time was obliged to alter my opinion, and must now express admiration for the thoroughness of the work. There was enough material at hand to fill a work six times the size of this *Primer* of 144 pages, and none but an expert could have condensed so much reliable information into such a small compass without greatly impairing its usefulness.

In the matter of selections of species and varieties the work is quite up to date, and for these alone should be largely purchased by professional gardeners, as well as amateurs. Only those who have attempted anything of the kind fully realise the amount of experience needed, and the thought and care that have to be exercised when selections have to be made. So highly do I value those in the book that I shall constantly quote and advise them.

At the outset much-needed definitions are given of the terms annuals, biennials, and perennials. In reference to the last named section I reproduce the following for the benefit of readers who are also exhibitors:

"All plants, such as hardy border flowers, that die down and spring up again from the rootstock year after year are perennials—herbaceous. Roses and other flowering shrubs are also perennials, but not herbaceous. Through not recognising the distinction persons have included Roses in collections of cut flowers of 'hardy herbaceous' plants, and the stands have been, or ought to have been, disqualified at flower shows. Under the term 'hardy border flowers' Roses would be admissible, because they are hardy flowers grown in borders, though the plants are not herbaceous but shrubby perennials."

The chapter on hardy annuals is to my thinking one of the best in



FIG. 43.—TUBEROUS BEGONIAS.

the book, and should do much towards still further popularising this easily raised and very showy class of plants.

With the opening paragraph I cordially agree, and will repeat it. "These (hardy annuals) are the cheapest of all flowers, as a thousand plants of many of them can be raised from a threepenny packet of seeds. They are also as easy to grow as any plants, but it is quite futile to expect sturdy growth, and a satisfactory and prolonged display of flowers, from plants that are densely packed together in their infancy. Nor will late thinning or removing a portion of the plants be of any avail in improving the remainder. Thinning must be done to prevent the crowding. It is important that the full significance of that injunction should be grasped." The writer then goes on to give illustrated examples of what is best to be done for the welfare of the young plants, also on the best methods of raising half-hardy annuals. Hardy bulbs and tubers have a chapter devoted to them, brimful of sound information, while bedding plants also receive a full share of attention, the author showing, among other things, how Begonias should and should not be prepared for planting (see fig. 43).

There is a fairly long chapter, yet all too brief, on popular hardy border flowers, by Mr. S. Arnott, and the selections of these ought to be particularly valuable to amateurs. Florists' flowers, including Auriculas, Carnations and Picotees, summer Chrysanthemums, Dahlias, Delphiniums, Irises, Pæonies, Pansies, Pentstemons, Phloxes, Pinks, Primroses and Polyanthus, Pyrethrums, Roses, Violas and Violets are comprised in the last chapter, and with an index complete this unambitious but most comprehensive and instructive little book.

VEGETABLE CULTURE.

Mr. A. Dean is the author of the third of the *Primers* I am reviewing. He is very well known to the horticultural world, more particularly as a

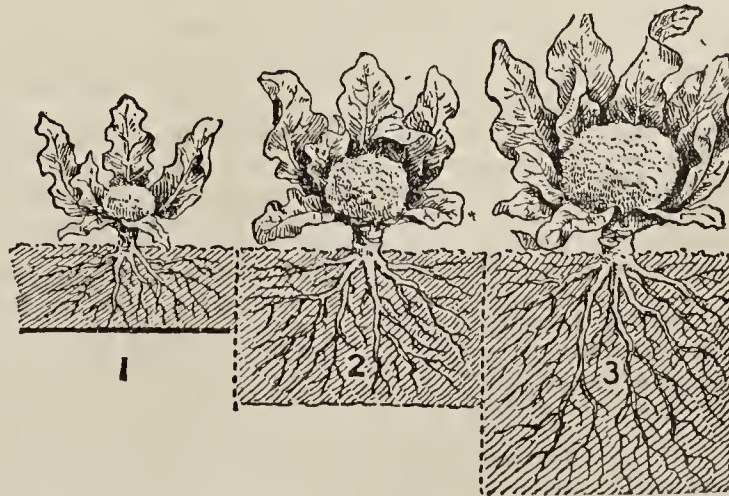


FIG. 44.—POVERTY, PROGRESS AND PROSPERITY.

critic of no mean order, and we now have good opportunities of noting whether or not he is stronger in destroying than in constructing. He has many good opportunities for arriving at sound conclusions on most subjects pertaining to vegetable culture, and if he has not actually succeeded in defying criticism, he has approached very near to that

enviable position. "Vegetable Culture" is as thorough, concise, and instructive as either of the preceding Primers, and more than that need not be said.

What Mr. Dean has to say about "Soils: Their Preparation and Manuring," is most instructive, and the pity is so few working men can be induced to dig even to the full depth of the spade, to say nothing of loosening the subsoil—always provided that circumstances favour this work. They should study his three "P's" (fig. 44) Poverty, Progress, and Prosperity. Shallow pipe drains doubtless suit many gardens, owing to the difficulty connected with finding outlets for deeper drains, but has Mr. Dean never seen any ill effects attending the practice of laying drains only from 2 feet to 3 feet in depth? I have, and can tell him that it is possible to greatly improve ground by draining it too rapidly. In one instance all drains 30 inches deep had to be taken up and relaid 1 foot or more deeper, before either fruit trees or vegetables would thrive satisfactorily. If we only sink them from 2 feet to 3 feet in depth, and in addition place "several inches of very coarse rubble or stones over them, and on the top some Heath, Gorse, or Quick hedge trimmings," we form a drain that will draw far too much moisture and nutriment from the soil to a distance of several yards away.

All the kinds of manure that come within the reach of amateurs and working men generally are ably treated upon, and good advice as to the rotation of crops given. In order to deal with them effectively the various kinds of vegetables are grouped somewhat in accordance with their habit of growth or condition in which they can be utilised. Thus we commence with tap or bulbous rooted vegetables; followed by tuberous-rooted kinds. Much that Mr. Dean advances concerning Potatoes is particularly instructive, but I should have been better pleased to see planting with a dibber condemned, except for light soil. Selections of Potatoes are difficult to make, especially seeing that all who are experienced in the matter strongly advise weeding out and retaining only a few sorts, or say not more than four or five. Mr. Dean probably does not mind the bother connected with a larger number, and contents himself with favourably mentioning twenty-six varieties. True, they are in sections, and possibly he had in mind the wants of exhibitors. Could he not have given us limited selections for different soils?

Under the heading "Pod-bearing Vegetables," Peas, Broad, Runner, and Kidney Beans are comprised and well treated. Fruit-bearing vegetables have likewise a chapter to themselves. Of these the most noteworthy are Vegetable Marrows, Cucumbers, and Tomatoes, a few pages being devoted to the house culture of the two latter. I will only allude to Tomatoes. On well prepared ground in the open air there is no good reason why the plants should not be 1 foot apart instead of 2 feet in rows 3 feet asunder. Under glass, instead of rows running only 18 inches apart across the house, heavier crops of superior fruit are had when the plants are twice that distance asunder; at least that is the conclusion I have arrived at after repeated experiments. I have also found that the best Tomato for open air culture is the heavy cropping variety, Early Ruby.

Green vegetables, salads, and herbs are fully and ably treated, and so are edible stemmed plants; but the Celery plant he shows needs another earthing if the crop has to remain for use in the spring. Mr. Dean has been more fortunate than I if he can rely on good Globe Artichokes from seedling plants. The work concludes with an excellent chapter on cottage and allotment gardening, showing what good work is being done by the Technical Education Department in Surrey, and also conveying sound advice as to judging allotments and gardens, with further information for the benefit of exhibitors. In this instance again an index increases the value of the work. We only want another of the same handy series (on fruit) to form a cheap and trustworthy library, valuable alike for school teachers, young gardeners, and cultivators generally.—W. IGGULDEN, *Instructor on Horticulture, Somerset.*

UNITED HORTICULTURAL PROVIDENT AND BENEFIT SOCIETY.—ANNUAL MEETING.

THE annual general meeting of the above Institution was held at the Caledonian Hotel, Adelphi, on Monday evening last. The chair was taken by Mr. J. Cheal, who, after the usual preliminary business, called on the Secretary to read the following report:—

The Committee have again very much pleasure in presenting to the members the annual report and balance-sheet for the year ending January 13th, 1896, and in stating that the Society continues in a prosperous condition. Seventy members joined during the year, eighteen lapsed, and two died, leaving a net gain of fifty. In the benefit fund the amount of subscriptions paid was £896 14s. 7d., including arrears for 1894. The sick list has been rather a heavy one, the amount of £145 6s. 4d. having been paid to fifty members. The deductions from members' deposit account to meet this amount is 6s. 2d. and 4s. 2d. in the two scales of contributions respectively. The amount of sick pay has been increased since July 8th from 16s. to 18s., and from 10s. 6d. to 12s. per week in the two classes. Amounts standing to the credit of deceased members have been paid, also one lapsed member. Subscriptions to the benevolent fund from benefit and honorary members are £128 9s. 6d. The sum of £7 10s. was granted to the widow of the late Charles Smith, and small sums amounting to £8 10s. 6d. were granted to other members in distress. No call has been made on the convalescent fund during the year. Members' attention is particularly called to this fund, as its benefits might be considerably extended. Mr. Sherwood again gave £5 5s. at the annual dinner to this fund. The management fund shows a balance of £30 8s. 8d. The Treasurer has invested £1100

during the year in Corporation Three per Cent. stock, and has a good balance in hand. The annual dinner was again carried out with spirit and success. James H. Veitch, Esq., made an excellent Chairman, and took the greatest interest in the proceedings. The accounts have been carefully audited by Messrs. Gunner and Dixon, and found correct. The Committee, in conclusion, ask the members to do what they can to induce other gardeners to join this excellent Society, as they are quite sure that no gardener can do better than join the "United." The receipts for 1895 amounted to £1569 7s. 11½d., while the expenditure was £1486 10s. 3½d., leaving a balance in hand of £82 17s. 8d. The capital at present invested is £10,800.

The Chairman, in a few supplementary remarks, complimented the Society on its satisfactory condition, stating that the amount standing to the account of the Institution was almost three times more than was the case nine years ago, while there was a gain of fifty members during the past year. The Society, he said, commended itself to all gardeners, as it was independent, and provided against sickness and for old age. It was admirably managed, and he would give a few instances of its great benefits. At the death of one of the first members there was a balance standing to his account of £46 10s., which was duly paid over to his widow. Another member, whose payments lapsed when he had reached the age of seventy, had the sum of £82 10s. standing to his credit. A third member has now the sum of £54 11s. 3d. standing to his credit; a fourth £64 9s. 4d.; and a fifth £82 10s. These statements spoke volumes for the stability and good management of the Institution, which is on a good and solid basis. The funds are all invested in sound and satisfactory concerns, and the accounts have all been carefully and scrupulously audited; and, as the balance-sheet showed, the Society is in a flourishing and reliable condition. The report and balance-sheet were then duly adopted, and the re-election of officers for the ensuing year proceeded with, hearty votes of thanks being accorded to the various officers. As Mr. J. George, one of the Trustees of this Society, has attained the age of seventy he is, through the rules of the Institution, prohibited from serving longer, and Mr. Scott was duly elected in his place, this causing a vacancy on the Committee, which Mr. Berry was chosen to fill. The whole of the evening's business having been conducted in an amicable and highly satisfactory manner, a hearty vote of thanks was accorded to Mr. Cheal for presiding, and for the excellent way in which he had discharged the duties connected therewith. We regret that unusual pressure on our space precludes a fuller report being given of this meeting.

ROYAL HORTICULTURAL SOCIETY.

DRILL HALL, MARCH 10TH.

THE Society scored a record at the meeting on Tuesday, as it was no doubt the largest spring meeting ever held in the building. Amongst flowering plants Cyclamens and Cinerarias were the chief feature. The heaviest of the duties lay with the Floral and Orchid Committees, there being such a large number of exhibits in these sections to deal with. Neither fruits nor vegetables were very numerous, but, speaking generally, the quality was fairly high.

FRUIT COMMITTEE.—Present: T. Francis Rivers, Esq. (in the chair); and Rev. W. Wilks, with Messrs. G. Bunyard, J. H. Veitch, H. J. Pearson, A. F. Barron, T. J. Saltmarsh, A. H. Pearson, P. C. M. Veitch, J. Smith, G. Reynolds, H. Balderson, F. Q. Lane, G. Sage, W. Bates, A. J. Laing, J. Cheal, J. Willard, A. Dean, T. Glen, and J. Wright.

Mr. Stevens sent plants of Stevens' Wonder Strawberry, bearing large, ripe fruits (vote of thanks). A fine dish of *Blue Pearmain* Apple was sent by Mr. John Watkins, Hereford, and a first-class certificate was awarded with one dissentient.

Winter Quarrenden Apples were placed on the table from Chiswick, for showing the keeping qualities of the variety. It was granted an award of merit in November.

Mr. R. Parker, gardener to the Duke of Richmond and Gordon, sent Apples from a tree 100 years old, an undoubted form of the Blenheim, and not sufficiently distinct for a varietal name. He also sent a fine dish of Apples from a tree at Goodwood, locally known as "Lincolnshire Reinnette." This name is not included in a list of about 150 Reinnettes in "Hogg's British Pomology." It is a good sized, uniform, somewhat conical and symmetrical fruit, a long keeper and of excellent flavour (award of merit). It is to be named *Goodwood Pippin*. A silver Banksian medal was also granted to Mr. Parker for a collection of Apples.

Mr. S. Mortimer sent fruits and fruiting plants of his *Cucumber Marvel*, medium sized, well shaped, and well coloured, and the plants most prolific. *First-class certificate*. Mr. Owen Thomas sent beautiful samples of *Frogmore Prolific Cucumber*, somewhat larger than the Marvel. A first-class certificate was awarded, with two dissentients. It was stated that a trial of Cucumbers could not (as was hoped by the Committee) be made at Chiswick this year.

Mr. G. Wythes sent a bunch of Asparagus as forced with leaves in permanent beds at Syon (vote of thanks). He also sent plants of the Syon Hardy Kale, a hardy variety with much cut leaves, distinct, and recommended to be tried at Chiswick. Messrs. Barr & Son exhibited Barr's Exquisite Dwarf Curled Kale, a compact hardy variety, recommended to Chiswick for trial.

FLORAL COMMITTEE.—Present: W. Marshall, Esq. (in the chair); and Rev. H. H. D'Ombra, with Messrs. J. Fraser, J. Laing, C. T. Drury, H. Herbst, R. Owen, G. Stevens, J. Hudson, J. Jennings, C. J. Salter,

T. Peed, G. Gordon, G. H. Engleheart, C. E. Pearson, H. Briscoe-Ironside, C. E. Shea, J. D. Pawle, J. T. Bennett-Poë, E. Beckett, H. J. Jones, C. Blick, J. Walker, G. Paul, E. Mawley, J. Fraser, and H. Turner.

Messrs. W. Cutbush & Son, Highgate, sent a large collection of flowering shrubs, Hyacinths, and Tulips in pots, together with hardy flowers, the whole making a grand display. Finely grown Primulas came from Mr. J. R. Box, Croydon, and Messrs. J. Laing & Son, Forest Hill, were represented by a diversified group of flower and foliage plants. The beautiful Roses staged by Mr. G. Mount, Canterbury, were a conspicuous feature, and well flowered plants of Begonia Gloire de Sceaux came from Mr. Willard, gardener to Baroness Burdett Coutts, Highgate. Mr. Crosswell, gardener to M. Bullivant, Esq., Beckenham, sent a fine plant of Cyclamen Giant White, and from Mr. Chas. Turner, Slough, came a grand specimen of Calla Elliotiana. Cyclamens of excellent quality were staged by Mr. F. J. Thorpe, gardener to Major Joicey, Sunningdale Park, Ascot; and Mr. Perkins, gardener to Hon. W. F. Smith, M. P., Henley, sent several Amaryllis.

Messrs. Paul & Son, Chesham, were represented by a varied collection of hardy flowers and Amaryllis, while Daffodils in great diversity came from Mr. T. S. Ware, Hale Farm Nurseries, Tottenham. A fine specimen of Andromeda japonica came from Mr. Anthony Watercr, Woking, and it would be difficult to overestimate the beauty of the Cinerarias from Messrs. H. Cannell & Son, Swanley. Cinerarias also came from Messrs. J. Wood & Son, Slough, and Messrs. Jas. Veitch and Sons, Chelsea, were represented by a superb exhibit of Primulas, Cyclamens, Blue Primroses, Amaryllis, Rhododendrons, and shrubs. The Cyclamen sent by the Church Road Nursery Company, Hanwell, were very fine, as also was the superb collection of Camellias, for which Messrs. W. Paul & Son, Waltham Cross, were responsible. This exhibit comprised excellently grown plants and stands of cut flowers, many of the leading varieties being noticed.

Messrs. J. Peed & Sons, Norwood, sent a bright collection of flowering and foliage plants, and Mr. W. Bull, Chelsea, staged a group of foliage plants. Fine examples of Cyclamens came from Mr. Hawkes, gardener to the Earl of Jersey, Isleworth, and Messrs. Barr & Son were represented by a large collection of hardy flowers. A bloom of Rhododendron grande came from the Botanic Gardens, Glasnevin, and B. Hooke, Esq., The Towers, Hillingdon, sent a collection of Hellebores. From Mr. F. Cornish, gardener to the Dowager Lady Bowman, came a few hardy herbaceous plants. Mr. Downes, gardener to J. T. Bennett Poë, Esq., sent a plant of Asparagus Sprengeri.

ORCHID COMMITTEE.—Present: H. J. Veitch, Esq. (in the chair); with Messrs. J. O'Brien, De B. Crawshay, H. M. Pollett, H. Ballantine, W. H. White, J. Gabriel, T. Statter, H. J. Chapman, T. W. Bond, H. Williams, E. Ashworth, E. Hill, J. Douglas, W. H. Protheroe, and T. B. Haywood.

Orchids were represented in large numbers, Dendrobiums being the chief feature. Mr. Johnson, gardener to T. Statter, Esq., Manchester, sent a group of the latter, which included D. nobile Statteræ, D. nobile nobilius, D. nobile pubescens, and others. Messrs. F. Sander & Co., St. Albans, had a pleasing group, which included Angreecums sesquipedale and Humboldtii, Lycastes and Odontoglossums in variety, and fine flowers of Phaius Marthæ. Several fine Dendrobies came from Mr. T. Armstrong, gardener to Charles Winn, Esq., Birmingham. Baron Schröder, The Dell, Egham, was represented by magnificent cut spikes of Odontoglossums coronarium, brevifolium, crispum, variety Rex, Pescatoria Veitchianum, Calanthe Baron Schröder, and several others.

Mr. W. Bull, Chelsea, sent a fine specimen of Lycaste Skinneri alba grandiflora. From Mr. G. Cypher, Cheltenham, came a pleasing little group of Orchids, in which Dendrobiums nobile, Cypheri, rubens, and Ainsworthi (Cypher's variety), and Odontoglossum blandum were pleasingly conspicuous. Sir Trevor Lawrence, Bart., Dorking, sent a striking collection of Orchids. Mr. W. Murray, gardener to N. C. Cookson, Esq., Wylam-on-Tyne, sent a few pretty forms of Dendrobiums, and R. I. Measures, Esq., Camberwell, sent a few Cypripediums. Mr. G. Duncan, gardener to C. Lucas, Esq., Horsham, sent a plant of Dendrobium Kingianum, and from the Hon. Walter Rothschild, Tring Park, came a bloom of Cypripedium Morganianæ. Mons. A. A. Peters, Saint-gilles, Brussels, sent a few charming Orchids, including Miltonia Bleuiana aurea. Messrs. Jas. Veitch & Sons, Chelsea, sent a large and exceedingly diversified collection of Orchids, including Dendrobiums, Miltonias, Cattleyas, Cymbidiums, Cypripediums, and many others, the whole forming a distinct feature, by reason not so much for quantity as the general excellence of the quality.

Mr. W. H. Young, gardener to Sir F. Wigan, East Sheen, sent a few plants, and a fine specimen of Cattleya Trianae Crawshayana came from De B. Crawshay, Esq., Sevenoaks. Mr. G. Hunt, gardener to Pantia Ralli, Esq., Ashted Park, sent a few blooms. Messrs. Hugh Low and Co., Clapton, were represented by a magnificent collection, in which Dendrobiums in great variety were chiefly conspicuous. This was a particularly pleasing exhibit, containing well-grown plants, carrying perfectly developed flowers. A pleasing little group was staged by Mr. W. H. Robbins, gardener to W. Vanner, Esq., Chislehurst; and Mr. D. Masterton, gardener to W. S. Ellis, Esq., Dorking, sent a well-flowered plant of Coelogyne cristata alba. Mr. G. B. Lees, gardener to E. de Quincy, Esq., Chislehurst, exhibited a variety of Cattleya Trianae, as also did Mr. A. Church, gardener to the Hon. Mrs. Foley, Fordingbridge.

A large number of medals, first-class certificates, and awards of merit were granted, but it is impossible to give details in the limited space at our disposal.



HARDY FRUIT GARDEN.

Wall Trees.—*Protecting Blossom.*—As Apricots, Peaches, and Nectarines advance into bloom it is advisable to be prepared with some means of protection from frost. Afford no protection whatever until the blooms expand. Full exposure while the weather remains cold acts as a check on the progress of flower bud development, and serves to retard the final expansion. Sunny mornings, however, even in cold weather have great effect on trees trained on south walls. It is desirable, therefore, to shade these from strong sunshine, in order, if possible, that the blossom may be retarded. Moveable curtains arranged in front of the trees or on copings above them are decidedly the best, as they can be conveniently let down or drawn together. Fish netting may be fixed as a permanent protection, several thicknesses being required. Care must be exercised not to coddle trees. Light and air are needed. Cold, dry, bracing air, without frost, is beneficial and renders protection unnecessary. Driving winds with sleet or rain may be warded off, as their tendency is to injure the delicate petals and saturate the reproductive organs. Frost then catching them acts disastrously.

Completing Pruning and Nailing.—Any trees that remain unpruned, unnailed, or otherwise neglected ought to be attended to at once. Lay in all promising well-ripened shoots of Morello Cherries 4 inches apart. Prune Gooseberries and Currants on walls if not previously done. Remove crowded branches of any kind of trees, bearing in mind that 12 inches is the minimum distance which ought to be allowed spur-pruned branches. Close training obstructs the free admission of light and air, favouring unproductiveness. Autumn planted trees may be secured in position, pruning closely where it is necessary to originate more branches. Recently planted wall trees should also be pruned if necessary, but not at present fastened permanently to the walls.

Improving Rooting Mediums.—Much benefit accrues to trees in a free bearing state by removing the surface soil down to the roots and as far laterally as they extend, adding fresh material. This may consist of fresh loam four parts, decayed manure one part, charred refuse one part, and a good sprinkling of bone dust, as the material is mixed together. Place firmly over the roots, and mulch the surface lightly. Where the roots are nearer the surface a dressing of chemical manure will act beneficially.

Planting Strawberries.—Young plants wintered closely in nursery beds may now be planted out permanently. If lifted carefully, securing abundance of roots with soil attached, the removal can be carried out without the plants experiencing a check. In that case, the plants would be able to carry a small amount of fruit each the first season, otherwise the flowers when showing should be nipped off.

Preparation of Soil.—Ground roughly dug and liberally manured in the autumn will be in good condition without further preparation other than breaking up the surface with a fork in dry weather. Light soil should be consolidated before planting, as Strawberries delight in firm, rich medium. On completion, spread a light mulching of decayed manure between the plants.

Spring Dressing Strawberry Beds.—As growth is about to recommence the old withered foliage may be cleared off, strong weeds (if any) eradicated, and the remains of the mulching raked off. Dust freely round the crowns with soot, also between the rows, which will wash in and benefit the roots. Quickly soluble chemical manures may be applied shortly, thus further assisting the plants in developing strong trusses of bloom. In the meantime, spread over a liberal mulch of fresh manure containing strawy material.

FRUIT FORCING.

Vines.—*Earliest Forced in Pots.*—The Vines started last November have the Grapes in the last stages of swelling—indeed, White Frontignan, the best flavoured and earliest to ripen of all forced Grapes, is beginning to colour—and must be adequately supported with liquid manure. After the colouring is well pronounced water suffices, and of that a moderate amount is better than a surfeit. A circulation of warm moderately dry air conduces to the flavour of the fruit and its colour and bloom, but the atmosphere must not be allowed to become so dry as to invite red spider, for the Grapes require some little time to mature after apparently ripe, and a moderate air moisture without stagnation is essential to their remaining plump and fresh until cut.

Early Forced Planted-out Vines.—Those started early in December and previously forced will soon have the Grapes stoned, and should have liberal top-dressings of fertilisers washed in or have them supplied in liquid form, even if alternating with liquid manure from stable and cow-house tanks or manure yard cesspools, for Vines like a change of food; besides, there is not everything they require in sufficiently available form in such liquid. A light mulching of lumpy partially decayed manure may be placed on the border, especially where the soil is light, though it often does good where that is stiff by preventing cracking, as the Grapes swell considerably in the later stages, even after commencing colouring, and allow a little lateral extension, as every leaf has its corresponding root formation, and that leaf fully exposed to light and air helps the Grapes in swelling and colouring.

The Vines not forced before or started later will be stoning, this taking place after the first swelling following thinning, and is perhaps the most important as regards ultimate size in the berries. During the stoning a steady state of affairs is best, giving phosphates, potash and moderate nitrogen or ammonia, either in liquid form or as top-dressings; these encouraging surface roots more than liquid applications. Ventilation needs to be carefully attended to, as "rust" comes on Grapes and leaves by sudden depressions of temperature and cold drying currents of air. When sharp north-east winds and bright gleams of sun prevail, the temperature is subject to sudden alternations, which must be avoided by admitting air in small quantities at a time, always previous to rather than after a great rise of temperature, taking care to allow a good advance from sun heat after closing early in the afternoon at 80° to 85°, thus with 90° a long day's work will be secured, allowing the heat to fall to 65° at night, or even 60° when cold.

Vines started at the new year are not good in all places, and those not forced as early before are the worst. Savants make-believe that rest is not needed by vegetation, but practice proves that Nature prepares for work according to conditions of environment, and that there is nothing like a long rest or a hard winter to make sure of a bounteous crop or harvest. It is no use travelling into the tropics, but let us act as if in England, and then all goes well. Some Vines have bunches that twist, twirl, and grow in anything but the right direction, while some are "blind." This is a consequence, and that may be for want of more time, anyway similar Vines started, or rather starting of their own accord, in March or April do nothing of the kind. Nothing can be done now, as a bunch bent on becoming a tendril will do so in spite of all restraints; but all might have been avoided if the wood had been ripened earlier, or even had the Vines been given more time. Avoid the close stopping system in such cases, yet do not allow more growths than can have room for development. The Vines are now in flower, and should have a rather drier atmosphere, with a gentle circulation of air, and a temperature of 65° to 70° at night, 70° to 75° by day artificially, and 80° to 85° from sun heat, maintaining moderate moisture by damping the house two or three times a day in bright weather. Muscats should have at least 5° higher temperature, and the flowers must be carefully fertilised.

Succession Houses.—Disbud and tie down the growths as they advance, stopping to two joints beyond the bunches where the space is limited; but where there is room allow a greater extension of the shoots before stopping. Remove the laterals from the joints below the show for fruit, except from the two basal leaves, stopping these at the first leaf, and to one afterwards, as produced. The laterals above the fruit may be allowed to make such growth as can have exposure to light without crowding, and then be stopped, keeping them pinched afterwards, as space permits, or to one joint where there is not room for extension. Remove all superfluous and ill-shaped bunches of the free-setting varieties as soon as the most promising for the crop can be selected. Maintain the border in a proper state of moisture, and secure a genial atmosphere by damping the house well at closing time as well as in the morning and evening. A temperature of 60° to 65° at night is suitable after the Vines come into leaf, allowing 65° to 70° in dull days, and 75° to 85° with sun and ventilation, taking care to avoid cold draughts, and to close early.

Late Houses.—Vines intended to ripen the fruit in August must now be started, and Muscats, with other late varieties, should be encouraged to move, as the fruit keeps much better when ripened in late August or early in September than when the season is more advanced at the ripening period. Inside borders need water to bring them into a properly moist condition, but avoid making the soil very wet. The atmosphere must be kept genial, damping the rods and floors, two or three times a day, maintaining a temperature of 50° at night, or 55° when mild, and 65° by day with sun. Late Hamburgs may be kept cool, not starting the Vines until April—indeed, they may start naturally. It will suffice if they have the fruit set by early June, and the Grapes are ripe in September.

Vine Eyes.—Those inserted last month will now be well rooted, and should be potted singly. Insert in small pots, shifted into 5 or 6-inch as soon as the roots reach the sides of the smaller, placing them in bottom heat, or preferably on shelves over the hot-water pipes. Syringe moderately amongst them, pinching the laterals at the first leaf, and if intended for planting out this season do so before the roots become matted.

Out-back Vines.—For fruiting in pots next season these Vines will now be fit for shaking out and repotting, or if that has already been done, and the roots have reached the sides of the pots, they will need shifting into the fruiting (12-inch) pots. After potting place along the sides of the house over the hot-water pipes in preference to a cool bottom, keeping the house close and moderately moist until they become established. Train the canes near the glass, pinching the laterals to one leaf, and thus secure solidified growth and plump buds. Use clean pots and thorough drainage. Turfy loam, with a fifth of old mortar rubbish, answers well for potting; but a pint of dissolved raw bones (quite mellow), the same amount of soot, and a quart of wood ashes to 2 bushels of the loam make a lot of difference, failing which use advertised fertilisers.

TRADE CATALOGUES RECEIVED.

Fotheringham & King, Dumfries.—*Agricultural Seeds.*
Dicksons, Ltd., Chester.—*Select Farm Seeds.*
Hogg & Robertson, 22, Mary Street, Dublin.—*Farm Seeds.*
Toogood & Sons, Southampton.—*Seeds for the Farm.*

THE BEE-KEEPER.

MAKING COMB FOUNDATION.

(Concluded from page 218.)

DIPPING should commence when the wax is beginning to freeze round the edges. After the dippers have been plunged sufficiently in the wax place them in a tank of cold water, which must be close at hand. A lamp may be employed to keep the wax liquid. It is different when milling, a high uniform temperature being necessary. When the mill is oiled, and in proper gear, soapsuds or starch should be in readiness to keep the rolls lubricated, a brush being held against the rollers to remove the oxide. The temperature of the house and the rollers should not be under 60°.

When once the mill is in readiness have a tank with warm water—a little experience will teach the proper heat—and place therein a number of sheets. Lift one from the water, lay it on the platform in front of the machine, cut from one end a narrow strip less than an inch broad, and lay it on the top of the sheet. Enter the latter between the rolls, turn the handle till the sheet appears about an inch through, then lift the strip, place it on the top of the milled end, back the machine till the two are knitted together, reverse, and either let an assistant in front catch hold of the narrow strip with a pair of wooden grips and lead it from the rolls, or let it come over the top one, keeping hold of the handle with one hand, and the grip with the sheet in it in the other, stretching the arm to take it away till it is clear of the rolls.

It is imperative the rollers be kept warm, as when the temperature is 70° or more the worker may leave off and begin at any time, but if the temperature is below 50° the rolls require to be heated every time when resuming work. Always dip the sheets lengthways.

From the foregoing I think any amateur will be able with a little practice to make his own foundation. Keep in mind the effect different temperatures has on wax, and do not clog up the rolls or allow wax to adhere to the dippers, and I doubt not all who try it will be successful. They will know the wax is genuine, and will find it cheaper than having to purchase. The above plan may be modified greatly, but is one that has given great satisfaction for thirty-four years to—A LANARKSHIRE BEE-KEEPER.

TO CORRESPONDENTS

* * All correspondence should be directed either to "THE EDITOR" or to "THE PUBLISHER." Letters addressed to Dr. Hogg or members of the staff often remain unopened unavoidably. We request that no one will write privately to any of our correspondents, as doing so subjects them to unjustifiable trouble and expense.

Books (T. B.).—A letter that was posted to you has been returned to us by the postal authorities. Please write again.

Pompon Dahlias for Cutting (T. H. C.).—Eight of the best Pompon Dahlias in the colours you want are—*White*.—Lady Blanche and White Aster. *Yellow*.—Golden Gem and Iolanthe. *Crimson*.—Darkness and Mars. *Scarlet*.—Nelly Lee and Triumph.

Fancy Dahlias for Garden Decoration (Bristol).—A selection of six may consist of the following varieties:—Mrs. Saunders, yellow and white; Mrs. John Downie, orange and scarlet; Matthew Campbell, buff and crimson; Peacock, maroon and white; Henry Eckford, yellow and red; and Mrs. N. Halls, scarlet and white.

Vine Shoots (E. B. H.).—There is no occasion to alarm yourself about the Vines through having Tea Roses in the house infested with mildew. There is no trace of mildew on the Vine growths, nor of there having been any. The bisulphide of calcium recommended in Mr. E. Molyneux's book on Chrysanthemums is one of the best and oldest preventives and remedies for the white mildews (Oidiums) or epiphytic parasitical fungi, but it must not be used on Vines after the Grapes form, or if it is, must be washed off within a quarter of an hour, or they will assuredly rust.

Pelargonium Leaves Blistered (Menton Place).—The miserable specimens have been affected by the Geranium mite (Tarsonymus gerani). It lives in the leaves just beneath the cuticle, giving rise to small dots or blotches, and preventing growth. The best thing to do is to fumigate with tobacco or syringe with a safe solution of tobacco juice, which contains some sulphur, or an infusion of tobacco powder. This will not kill the pests in the leaves, but it does those prowling about, and makes the whole plant so distasteful that they leave it alone, so also do green fly and thrips. The plants then "grow out of the disease."

Tulips not Flowering (C. J.).—The bulbs are good, and the flowers, we suspect, would have expanded had not so much growth been made within the material with which the pots were covered. They ought to have been withdrawn a fortnight or more sooner.

Dendrobium nobile nobilius (Herts).—This is a large and deeply coloured form of the type, the flowers having broad and well formed segments of a rosy purple tinge. The lip is white, the usual purple blotch in the throat being much intensified in colour. It is much superior to the ordinary *D. nobile*, and is a very rare and expensive variety.

Carnations for Cut Blooms (Flower Grower).—The following are free flowering, hardy, and some strongly scented. *White*.—Old White Clove, Gloire de Nancy, and W. P. Milner. *Yellow Ground*.—Germania, Pride of Penshurst, and Mrs. Reynolds Hole. *Scarlet*.—Dundas Scarlet, Queen Victoria, and Guiding Star. *Crimson*.—Old Crimson Clove, Duke of Edinburgh, and Paul Engleheart.

Killing Crickets (Stevenage).—Traps are the safest; the "Birkenhead" and "Demon," to be had of ironmongers and nurserymen, being good also for cockroaches. Poison is, perhaps, less troublesome, but care must be used in employing it. Chemists sell phosphor paste, and this "battered" on bits of bread and placed at night near their haunts is more or less effective. Nurserymen and horticultural sundriesmen supply beetle poison, which is relished by these pests, and one meal suffices. These preparations are better than home-compounded poisons, as there is no fear of accident, except through gross negligence.

Soluble Cresol for Watering Tomatoes (F. W.).—This combination of cresylic acid (cresol) with carbolic acid (phenol), creosote, and other ingredients is not very safe to use, even at a strength of 1 part in 320 = 1 gill ($\frac{1}{4}$ pint) to 10 gallons of water, as the creosote is long in parting with its injurious properties, even in the soil. It ought not to have been used, nor any such crude substance, without being saponified. Plants in pots, as a rule, are much sooner injured than those in soil, because the liquid is more confined and a larger quantity given per area than to a border. We should think the "stuff" will have spent itself to a great extent before the plants are put out in six or eight weeks time, especially if the soil is given a good watering before planting. Half the amount per square yard is usually sufficient, and even then it sterilises the soil for a time.

Mushrooms Not Swelling (Bridlington).—The small knobs which proceed from the spawn are quite healthy, but the larger—the largest being less than a pea—are quite dead, and their external cells have been destroyed by the alternations of too much and too little water. It is a very common occurrence in Mushroom houses somewhat dry from position or internal circumstances, especially at this time of year, and is extremely difficult to remedy. Beds should be firm and the materials adequately moist, and kept so, if possible, by covering them to prevent evaporation. The necessity for watering Mushroom beds is an evil. The spawn has run well, but all the "life" has gone out of the sustaining substance, which must retain a certain amount of moisture and continue to yield a supply of nitrogen—that is, ammonia, by slow decomposition, and that means moisture, which is essential for the development of the Mushrooms. This the bed does not supply, therefore water is given at the surface and on the Mushrooms, causing them to turn brown and perish, not only in the "pinhead" but in the "button" stage. They do not want the water there, but lower down where the mycelial threads are situated, and when beds are too dry it is necessary to make small holes and fill these with tepid water, using about a handful of salt to a 4 gallon can of water or 2 ozs. of nitrate of soda. The holes should be made, using half a gallon of water or more per square yard, and in no case over the "buttons" or "pinheads." When the water has soaked in cover with soft hay, previously beaten with a stick to get rid of the seeds. This will secure even moisture and steady decay.

Coal Ashes as Manure (Amateur).—There is little or no manurial value in coal ashes, and the only uses we have found for them in gardens are for lightening heavy soil, forming a base impervious to worms for standing plants in pots on in summer or plunging them in winter to protect the roots from frost, and occasionally for covering rows of Peas or Beans after sowing, and lightly covering with earth as a protection against mice and slugs. For the latter purposes they are sometimes used for placing around and over the crowns of herbaceous plants liable to have the crowns or young shoots destroyed by those pests. In those ways coal ashes are useful, and they make excellent walks in kitchen gardens when mixed in a thoroughly dry state with boiling coal tar to a stiffish mortar-like consistence.

Raising Citrus trifoliata from Seed (Somerset).—The seeds should be sown in pots or pans, and the seedlings raised on a hotbed. If the seeds are good the plants will soon appear, and in the course of about six weeks be fit for small pots. After potting keep them close for a time, shading until established, but afterwards allow plenty of air to harden them. During the rest of the summer they may be grown on a shelf nearer the glass in a cold frame or house. In the winter they are preferably kept in a cool house with the frost excluded, and in the spring they may be repotted. If you want bushy plants they must be pinched at a few joints of growth, not practising it after June unless to check refractory growths and maintain the symmetry of the plants. After the second year the plants may be stood outdoors in a sheltered situation after the growth is made, which will harden the wood, and with a year or two of this treatment the trees or shrubs will probably flower, but all plants of the Citrus family are tardy in coming into bearing from seed.

Beetle Infesting Maidenhair Ferns (W. K.).—The beetle is the black Vine or grooved weevil (*Otiobrychus sulcatus*), for which there is no surer or better method than capturing and killing them. They feed at night, and must be approached cautiously, as they speedily become alarmed by noise or approach of light, and drop down, feigning death. Poisons cannot well be used on Maidenhair Ferns, as there is danger of this getting on the hands.

Chysis aurea (H. T.).—This Orchid delights in plenty of heat and atmospheric moisture while making its growth, and during the latter part of the season should be kept well up to the light in order to consolidate the growth. The roots must be well supplied with water right up to the time the pseudo-bulbs finish growing, reducing it as the foliage falls until in the winter very little is required. At this time the plants must be kept much cooler, about 50° as a minimum being ample. So treated you ought to have no difficulty in flowering this plant, the bloom spikes being produced along with the new growth in the spring. A note on these interesting Orchids is in preparation, and will appear shortly.

Seasell's Patent Orchid Baskets.—In answer to "R. P. W.," who writes respecting the new Orchid baskets, we are enabled by the courtesy of the makers to publish the illustration (fig. 45). Our correspondent wishes to know whether they are an improvement on the old make, and if he can recommend them to his employer. They are an improvement in several ways, the most important being, in our opinion, the fact of the top piece keeping the rest of the basket so rigid, making

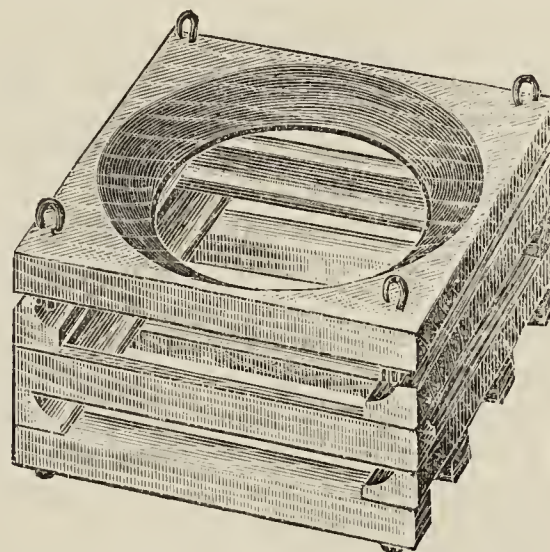


FIG. 45.—A GOOD ORCHID BASKET.

it impossible to pull out of the square, and therefore preventing any danger of injury to the roots. A difficulty with the old style of basket was often found in fixing the plants in position. This, as will be seen by a glance at the illustration, is obviated, and it is as easy to place a plant in one of these baskets as into an ordinary flower pot. They are well worth the difference in price charged between them and the old style.

Pear Spurs (An Old Subscriber).—The pruning is faultless. Those of No. 1 show the tree to be vigorous, too much so for free bearing, the roots probably having struck down into the subsoil, and it would be an advantage to see to this and cut off any straight-down roots, as there is little prospect of its bearing when making such wood. No. 2 is in much better condition, form short stubby spurs on which fruit usually comes freely, and there is little need of the knife. No. 3 is not a bad form of spur, but the terminal bud is not a blossom one. All such ought not to be shortened, but left intact, and if properly exposed to light should form blossom buds this season. No. 4 is correctly pruned, but the growth, like that of No. 1, is too vigorous for bearing fruit, the roots of the tree probably having gone straight down, as is not uncommonly the case in narrow borders when means are not taken to prevent it and insure moderate growth and fruitfulness.

Eucharis Bulbs Infested by Insects (S. B.).—The bulbs are badly infested with the bulb mite (*Rhizoglyphus echinopus*, Clap., or *Tyroglyphus echinopus*, Fum. and Rob.). There are swarms of young mites and a few of the parents. As you seem to have a difficulty in procuring such a common substance as nitrate of soda, which kills the pests by the nitric acid, you may possibly be able to procure ammoniacal gas liquor at the gasworks, and if you are be sure you do not get gas tar, or any mixture of it. Dilute the pure gas liquor with six times its bulk of soft water of the same temperature as the plants, and water them with it so that the diluted liquor shows at the drainage. You may use this at once, and when water is again needed supply it clear. The liquid will possibly affect the plants for a short time; but they will soon go ahead, when it will be advisable to repeat the application occasionally. If you prefer, and it certainly is safer, procure a tin of Clibran's Eucharis mite killer, which may be procured of or through any large nurseryman or seedsman, and follow the instructions. It is effective for its purpose if properly used.

Names of Fruits.—(A. P.).—1, Northern Greening; 2, Forge; 3, Hollandbury; 4, Court of Wick; 5, Fearn's Pippin; 6, Winter Greening.

Names of Plants.—(Mona).—1, *Dendrobium lateolum*; 2, a *Maxillaria*, variety undeterminable.



POTATOES.—No. 2.

ABOUT a generation ago a marsh land farmer went up to London to give evidence before a Committee of the House of Commons in favour of a proposed new line through his neighbourhood. When asked what probabilities of local traffic there would be, he said, "Why, a good lot o' corn and a lot 'o 'taties." Being pressed to suggest something further, his only reply was, many times repeated, "'Taties, taties! no end o' 'taties." So to the new varieties every year introduced there seems no end. Undesirable as it must be to discourage enterprise in the field of improvement, yet after going through a dozen or more catalogues, one is inclined to say, Hold, enough!

To go on growing the same varieties, however, year after year means stagnation and ultimate failure, unless the "stock" be changed every third or even second year. A change of soil and climate is almost a necessity to the Potato if it is to be grown to the best advantage, and many a reputation gained by a new introduction has been due more to change of soil than to any great superiority in general qualities. Scotch seed may be disappointing the first year, but invariably does well the second. Warp land farmers always have a good demand for such seed, which they have grown one year.

Warp or limestone are both a good change for sand; we have found warp a good change for limestone. Seed from strong land does well generally on lighter soils, but not *vice versa*, and we should not recommend any from very weak, poor land. As a rule, the heavier and richer the soil on which the tuber has been grown, the stronger the growth will be. Of course necessity for change of seed varies very much according to the kind. Bruce or Emperor might be grown four years with as much safety as Hebrons or Elephants; Sutton's Abundance or Jeannie Deans might be grown two years.

An endless discussion might be raised on the most suitable size of tuber to plant; also on the advantages and disadvantages of "cut" as against "whole" sets. Cut tubers have a decided tendency in the direction of early maturity, the produce being large in size, but few in number. Small whole sets, say 2 to 3 ozs in weight, are the size most generally used. They will pass through a $1\frac{1}{8}$ inch mesh, and as main crop sorts for winter and spring use, we have found them to be the best.

For early and second early work the case is different, and large tubers may often be cut and planted with advantage. Never cut a Potato under any ordinary circumstances, however large, into more than two parts, or there will be great danger from dry rot. To minimise this danger cut them a few days before planting; the cut surface will then be dry and partly skinned over, then no bleeding of the sap will occur. If time will not allow of this a little quicklime dusted on the cut surface will have a similar effect. When cut do not put the tubers in very large heaps if to remain more than a day or two, as the sap from the cut surfaces may cause heating, which will result in grave damage to their value as seed.

For field culture we need not take into account the early varieties, but pass on to second earlies—*i.e.*, those ready for use from July to September. That old mainstay, Myatt's Prolific, owing to its tendency to disease, has dropped almost out of sight with its successor, the old Regent, their places now being filled by Snowdrop, White Elephant, Beauty of Hebron, and Reading Giant. The first three mature rapidly and are heavy croppers, but all more or less liable to disease. Reading Giant is a little later, but hardier and a heavier cropper. It is probably at the

present time more grown than any other kind, and is largely used for chipping. Jeannie Deans is as early, prolific, and beautiful in quality, but tender. All these varieties will bear generous treatment.

Following them for autumn we can confidently recommend Her Majesty; the quality is undeniable, and with liberal treatment the crop all that can be desired. Ripening early in September it can be stored, or got away before November without storing—a point now straw is so valuable. Sutton's Abundance is a beautiful Potato, perfect when sound. Of the later sorts the best are Bruce and Maincrop; both require a rich soil. The former is the heavier cropper, the latter the better in quality—in fact, this Potato generally commands the highest price.

Like the rustic who, hearing the parson incidentally remark in his sermon that commentators did not agree with him, hurried up to the vicarage next morning with a basket full of picked tubers of an extra digestible kind, we are all apt to think that our own are the best; still, there must be the best of all somewhere, and *experto crede*, if you want three reliable Potatoes for the field, and a good supply from July to May, try Reading Giant, Her Majesty, and Bruce. If extra keeping quality is desired, for Bruce substitute Maincrop.

WORK ON THE HOME FARM.

As March often brings a bit of sharp frost it is well to take advantage of such frost to lead out any remaining foldyard manure. This winter has, with its soft roads and fields, made manure leading an awful business—trying to the horses, trying to the men, and trying to the carts. It is heavy work at the best of times.

In the northern counties lambing is in full swing, and again we hear of ewe losses from excess of Turnip diet, and this year there has been no excuse. A good bite of grass, seeds so strong and well set that a treading by sheep would have done them good rather than harm, and yet here comes the old story. When will men learn wisdom? Can we impress on the shepherd too often the great necessity for scrupulous cleanliness in all that appertains to the lambing, and just drop a hint as to the dangers of meddling midwifery? If the weather be cold remember a lamb with a full stomach is as a soldier armed at all points.

With regard to store cattle, we are now knocking off nearly all cake and cut meat—*i.e.*, chaffed straw. Swedes are so abundant that two loads a day can be easily spared. Cake and straw both keep well, and may be very much needed before another Christmas. Remember, too, fine as the weather is, the cuckoo has not begun to sing yet, and there are such things as bitter May frosts, so do not waste an ounce of fodder.

Carrots, too, are a drug in the market, and if bought for, say, 15s. per ton, might be used to great advantage for draught horses. They have had a long course of hard corn, and Carrots are a pleasant form of spring medicine, cooling to the system, and purifying to the blood. They must be used in addition *to*, not in place *of*, other food. A well known hunting man of our acquaintance is now buying Carrots for summer feed. These will be given to hunters in loose boxes, and will, if carefully stored, be good up to the end of July or beginning of August. Carriage horses would be benefited by a like change of diet; indeed a horse that is a delicate feeder, and of a nervous, fretful disposition, will often eat Carrots when it cannot be tempted by any other form of food. We mention these points, as so often the home farm has to supply corn, fodder, and other feeding stuffs for use in the hall stables.

METEOROLOGICAL OBSERVATIONS.

CAMDEN SQUARE, LONDON.

Lat. $51^{\circ} 32' 40''$ N.; Long. $0^{\circ} 8' 0''$ W.; Altitude 111 feet.

DATE.		9 A.M.					IN THE DAY.				Rain.
1896 March.		Barometer at 32° and Sea Level.	Hygrometer.		Direc- tion of Wind.	Temp. of soil at 1 foot.	Shade Tem- perature.		Radiation Temperature.		
			Dry.	Wct.			Max.	Min.	In Sun.	On Grass.	
		Inchs.	deg.	deg.		deg.	deg.	deg.	deg.	Inchs.	
Sunday ..	1	29.722	50.2	48.5	W.S.W.	41.0	53.0	44.0	60.0	37.3	0.049
Monday ..	2	29.554	41.2	38.7	W.	41.1	49.1	36.9	76.9	31.2	0.258
Tuesday ..	3	28.879	43.5	40.8	W.	40.9	47.6	42.1	83.6	36.4	0.022
Wednesday	4	28.847	41.1	37.9	S.W.	40.0	48.0	34.4	86.4	28.1	0.169
Thursday..	5	29.408	43.7	39.9	N.W.	39.6	50.6	34.0	83.9	27.3	0.010
Friday ..	6	29.769	48.7	45.4	N.W.	40.4	53.0	43.1	62.1	38.0	—
Saturday ..	7	30.069	44.1	39.4	W.	41.8	53.0	40.0	58.0	31.9	0.455
		29.484	44.6	41.5		40.7	50.6	39.2	73.0	32.9	0.963

- 1st.—Almost continuous drizzle in morning, and overcast till 4 P.M.; sunny after, and clear night.
 2nd.—Fine, and generally sunny day; gale at night.
 3rd.—Gale early, and heavy rain from 5 A.M. to 8 A.M.; alternate sunshine and slight showers of rain and soft hail during the day.
 4th.—Sunshine and slight showers at intervals; heavy rain from 3.30 P.M. to 5 P.M.; clear night.
 5th.—Bright sunshine almost throughout.
 6th.—Overcast all day, with high wind in afternoon and evening.
 7th.—Overcast day, with rain from 10.30 A.M. to 2.30 P.M., and 6.30 P.M. to midnight.
 Rather April-like weather, much warmer than the previous week; much sun and (happily) nearly an inch of rain. Low barometer on 3rd and 4th.—G. J. SYMONS.


VEITCH'S


Novelties in Flower Seeds

ALL OF STERLING MERIT.

- CAMPANULA Pyramidalis Compacta** (New). Quite distinct from the older form, dwarfier, and a deeper blue. Per Packet, 1/6.
- CARNATION, Veitch's Early Flowering Perpetual** (New). An improved and distinct strain of the Marguerite section. Per Packet, 2/6.
- CENTAUREA Marguerita** (New). Supersedes all the old varieties of Centaurea, pure white. Per Packet, 1/6.
- DATURA Cornucopia** (New). Trumpet-shaped, upright, semi-duplex flowers, sweetly scented. Per Packet, 1/6.
- GODETIA, La Belle** (New). Crimson, edged white. Per Packet, 1/6.
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Journal of Horticulture.

THURSDAY, MARCH 19, 1896.

VARIETY IN THE FLOWER GARDEN.

PERHAPS the greatest weakness of modern flower gardening is the want of originality. What has been done in the past is too often adhered to for years without much or any variation; and the senses become thoroughly saturated and tired of such repetitions. After a course of years some strong-minded person will burst the bonds of the then existing style by adopting more originality, which in its turn will also run its course for a few seasons, as followed by a host of imitators. This has been the case through all ages of our gardening period.

There cannot be any doubt that the main charm in flower gardening is to have a little of all good styles, embracing as great a variety of plants as practicable. It should not be a mere flash of summer beauty, but rather a succession of beauties, extending the season of bloom over the greatest period of the year that our fickle and ever changeable climate will allow us. To carry this out in practice, forethought and consideration are needed, and perhaps infinitely more so in smoky and soot-begrimed localities. No one, unless he has actually tried the same plants in both places, is able to appreciate to its fullest extent the many and insuperable difficulties the cultivator in a town has to fight against over those who labour under and are enjoying the blessings of more favourable conditions of sunshine and pure air.

To span as it were this wealth of floral beauty from January to December a very much greater variety of plants is needed now than in the days of yore, when the red, white, and blue of "Geraniums," Calceolarias, and Lobelias predominated everywhere, as the principal standards of outline to work on generally. Pattern beds, ribbon borders, and solid blocks of many colours, all as level as the proverbial billiard table, have now happily in a great measure given place to a freer and easier style. The introduction of such plants as Cannas, Musas, Palms, Ferns, Solanums, Wigandias, Ricinus, and Tobaccos was doubtless the commencement of the change now being carried out in most of our London parks. It is not necessary that sub-tropical plants should be all green, for we have a variety of colour in the foliage of Cannas, to say nothing about the

No. 2477.—VOL. XCIV., OLD SERIES.

brilliancy of effect of bloom in some of the later introductions of this family. There is also much diversity of colour in the foliage of the various forms of Beet, Coleus, Amaranthus, Perilla, Iresine, Centaureas, Castor Oils, and others that will furnish an assortment almost as rich and gay as the usual run of flowering plants are.

From about 1870 to 1885 carpet bedding was in the zenith of its glory, and though it did not suit all tastes, it found, and still finds, many admirers. I therefore hold to the opinion that a few beds may be planted without incurring much adverse criticism, if the plants are chosen for their decided colouring and lasting properties. In wet summers they have a decided advantage over flowering plants by the contrast in the brilliancy of their foliage. That it is an extravagant system of bedding I am ready to admit; but most of the plants used are easily propagated, and few styles are more pleasing and effective on a summer's evening, while it has the advantage of adding a little more variety to the whole.

Two charming and effective families of plants have during the past few seasons been used plentifully in most gardens. As decorative plants they are indispensable, and when properly treated are both economical as well as pleasingly useful. I allude to the Fuchsia and Begonia, neither of which takes up much protective space during the winter months. Both are easily grown, and greatly admired when in bloom, possessing charms of artistic beauty solely their own. Besides the various colours and forms of the tuberous Begonia now so extensively used, there are several varieties of Begonia *semperflorens*, notably *B. s. rubra* and *B. s. rosea*. In localities where they do well few plants are more attractive, either displayed in small beds of separate colours or intermixed with some low-growing plants such as Violas. The prettiest effect I have seen with these was at Kew last season, where each variety of *B. semperflorens* was made to fill a separate small bed.

Ivy-leaf Pelargoniums of recent use for bedding purposes are extremely beautiful, especially on a groundwork of Violas. If strong autumn-rooted plants are grown rapidly, allowing three or four shoots to run up, they will form pyramids during the summer, and entwine themselves amongst the Violas. The rapid development of the Viola since the introduction of *Viola cornuta* some twenty-five years since furnishes us with an unlimited number of magnificent varieties to select from, and if planted in well-manured deeply dug soil they give us such a profusion of colours and bloom that few plants (if any) can equal. Their hardiness and ease of cultivation strongly recommend them to all gardens, whether large or small. I might add that I consider the royal road to success here lies in procuring young plants each season from cuttings every autumn.

Celosia plumosa and Cockscombs are coming into prominence for filling flower beds, their purple, crimson, golden yellow, and lemon flowers being attractive during the late summer months. Moderation and simplicity are the essential principles that should be applied in the arrangement of the flower garden. While overcrowding must by all means be avoided the opposite extreme should by no means be resorted to—in fact beds that are so thinly planted that the occupants scarcely meet by the end of the season denotes poverty and sadly mars the effect by too much exposure of the soil.

Another pleasing phase of garden decoration can be easily accomplished by a free distribution of early spring flowering bulbs amongst the grass. The first of these harbingers of spring is the Winter Aconite (*Eranthis hyemalis*), which is usually ready to produce its yellow Buttercup-like blooms after the disappearance of a spell of frost either in January or early February. This season, from its mildness, they appeared with me on the 17th January. These are soon followed by the pure white Snowdrop. Then every nook and cranny may be made gay with the Crocus in its many hues. Blue Scillas and Daffodils may be planted as fit associates to follow. While all the above are brightening our homes the flower beds, which contain the more majestic Hyacinths and Tulips, and

amongst which have been interspersed beds and edgings of Arabis, Aubrietias, Myosotis, Primroses, Polyanthus, Auriculas, and Wall-flowers, are boldly expanding their various forms and colours. Red, white, and pink Daisies, planted separately or in mixture, also serve to furnish a display in their own particular way.

Almost every variety of *Saxifraga* would be found useful, even to the common London Pride, each in its way adding lustre to the combination of floral wealth at our disposal. Some of the hardy herbaceous plants, suitably prepared, will be found useful to follow, such as *Doronicums*, *Pyrethrums*, Canterbury Bells, and Pansies. East Lothian, Ten-week, and Brompton Stocks, which have been protected during the winter, will, if planted in blocks, add much to the splendour, and in many cases they will boldly display their brilliancy and diffuse their fragrance throughout the long summer months. So many are the good things provided for our use during the summer that in a short paper of this kind I could not attempt to enumerate them, but to still extend the flowering period should be our aim; therefore large plantations of early flowering *Chrysanthemums*, Michaelmas Daisies, and other autumn gems should be secured to prolong our garden beauty.

To avoid blots and blanks in the flower garden, culture and manure are both needed, the plants have to be duly prepared for their places, and the places duly prepared and enriched for the plants, which must be the subject of future papers as opportunities occur.—J. W. MOORMAN, *Victoria Park, E.*

TRANSPLANTING SEEDLINGS.

THE term, "pricking out," would doubtless appear somewhat of a poser to the few inhabitants of these islands who know nothing of gardening or the phrases used to distinguish the various operations connected with the "gentle art." I say advisedly the "few" who are ignorant of these matters, because in these days of universal knowledge the grand old calling of Adam is practised by or taught to the inmates of well nigh every British home, and by no means the least among the many pleasures to be derived from gardening is that of watching the recently sown seeds send forth their tiny sprouts and gradually develop into leaves, a stage at which the seedlings are often ready for transplanting or pricking out. In large gardens hundreds of thousands of young plants of various descriptions undergo this operation annually, and those engaged in the work frequently find it an exceedingly pleasant task. Many a young gardener looks forward to the beginning of his day's work with an eagerness not understood by those who practise some more exhausting craft. I doubt not that many who, like myself, have travelled too far upon life's journey to be still termed "young gardeners," look back with satisfaction upon the really happy hours spent in pricking out.

In the cultivation of all plants, whether they be propagated by seeds or cuttings, a cardinal point to be observed is to insure a sturdy habit of growth from start to finish. With this object in view seeds ought to be sown thinly, and the young plants resulting therefrom transplanted before becoming drawn by overcrowding. It will thus be seen that the exact stage at which the young seedlings should be thinned must to a great extent be regulated by the room they have for development. Seedlings which spring up quite closely together must be pricked off as soon as large enough to handle; but when thinly disposed it is often an advantage to leave them till they have become strong and well rooted. Little balls of earth can then be lifted with them, and they scarcely experience any check from the operation.

Very fine dust-like seeds, such as those of the Tuberous Begonia, should always be sown thinly, as the operation of transplanting them is a very delicate one. It often has to be performed with the point of a penknife, and merely consists of lifting and laying them upon pans of prepared soil, already well moistened. By placing these under bell-glasses and keeping them shaded it is seldom that water is required till the young roots have fastened themselves in the new soil. Lobelias, *Pyrethrums*, *Calceolarias*, *Petunias*, and many others of like nature give infinitely less trouble when the seeds have been sown thinly, as they are most difficult to handle in a young state—in fact, if sown thickly, drawn and attenuated young plants must be the result before they can be pricked out. Primulas, on the other hand, I find make much better progress if pricked out as soon as the first pair of leaves have been formed. This is so even if the seeds were sown thinly. The

reason for this is not difficult to explain. I take it to be thus: Primula seeds are usually sown upon the surface of the soil, or with only a very slight covering; the top growth quickly becomes rather bulky in proportion to the size of the seed, or its rooting capacity in the early stages. To put matters right in this respect therefore transplanting is necessary, so that by burying a small portion of the stem the young plant is held firmly in position.

Tomatoes, again, are such rapid growers that all cultivators know how important it is to transplant and repot just in the nick of time, before growth becomes elongated. I might go on describing in detail the particular management required by the innumerable varieties of seedling plants, but this would become tedious, and is not necessary, because having given examples of the treatment necessary for the several types of seedlings, it remains for the operator to bring his powers of observation to bear upon the matter, and vary the details as reason shall direct.

In regard to the distances apart at which seedlings should be set, no hard-and-fast rule can be observed; an inch apart is a suitable distance for small plants which are intended to be transplanted as soon as necessary, whereas such quick-growing seedlings as Tomatoes require to be given fully twice that distance. In the case of Lobelias, Ageratums, and a host of other plants grown for bedding purposes, much valuable space is utilised to the best advantage by pricking out somewhat thickly at first, and in the course of a few weeks transplanting again into other boxes or frames, which, with the increase of warm weather, become suitable for the purpose. In preparing pans or boxes to receive these young plants ample drainage must be given; a thin layer of soil suffices—1 inch or 1½ inch is enough—and there is then but little danger of it becoming sour.

The lower half of this should be passed through the ½-inch sieve, and the upper part through the ¼-inch one, the surface being pressed smooth and moderately firm with a board. A little sand sprinkled on the surface is often an advantage when very small seedlings are being dealt with, and in all instances I like to water the soil through a fine rose half an hour before pricking out commences; the progress of the work is then greatly facilitated, and the young plants only require sprinkling with a very fine rose for a few days; then by the time a good watering is necessary all danger of disturbing their position is over. Of course the seedlings must be shaded to prevent the leaves flagging.—PLANTSMAN.



EPIDENDRUM ELEGANTULUM.

THOUGH the genus comprising Epidendrums is a very extensive one, additions to it of real merit are sure to be received with pleasure. Some of the varieties and species are remarkable for the beauty of their flowers, while others, in which these are inferior, are highly appreciated by reason of their fragrance. Such being the case, it may be expected that a hybrid possessed of both these desirable attributes will be received with great favour. Such an Epidendrum is elegantulum, which has been obtained by Messrs. J. Veitch & Sons, Royal Exotic Nursery, Chelsea, from a cross between E. Endresio-Wallisi and E. Wallisi, and for which this firm received a first-class certificate at the meeting of the Royal Horticultural Society held at the Drill Hall on the 10th inst. Commendable, too, is the habit of this plant, which is stout and sturdy. In colour the sepals are green with brown markings, while the large, spreading lip is white with occasional rosy purple blotches. The woodcut (fig. 46) represents the form of flowering of this hybrid.

CULTURE OF CALANTHES.

WITH the practical instructions given by "L." (page 203), anent the cultivation of this useful Orchid, I cordially agree with but one exception—viz., that of placing the pseudo-bulbs in boxes to enable them to make roots an inch or so long before they are potted. It would no doubt be interesting to others as it would to myself if "L." would state his reason for so doing, and what benefit accrues to the plants themselves by the adoption of this treatment in preference to potting them direct. Personally I grow this Orchid fairly well, but with the explanation asked for I might be enabled to do still better.—E. M.

CHYSIS.

THIS is not a large genus, but the members of it are extremely useful Orchids, well repaying the little care needed to grow them

well. The flowers are very distinct and handsome, of a thick, fleshy texture, some of them fragrant, and they usually last from two to three weeks in good order. The majority of the species like plenty of heat while making their growth, and although natives of Central America, apparently like rather different treatment from the majority of Orchids from this locality. We usually repot the plants about this time of year, or just as the new growths are pushing, and are careful to allow pot room enough, as the roots are vigorous and run freely in a good compost. The plants are apt to get away from their pots if left too long, so it is best to repot about once in two years.

Mix about equal parts of the best peat fibre obtainable and freshly gathered sphagnum moss, adding a little fibry loam and abundance of finely broken crocks. Drain the pots at least half their depth and cover the crocks with a layer of rough moss. In turning the plants out of the old pots be careful not to damage the roots, and if the latter are clinging tightly to the inner surface of the pot break it in preference to the roots, and let the pieces be placed



FIG. 46.—EPIDENDRUM ELEGANTULUM.

in the new pot with them. Spread the roots out laterally, and place the plant so that the base of the last formed pseudo-bulbs rests on the surface of the compost when finished, as it should be, with a gentle rise from the rim of the pot. Fill up with the compost named, firming it with the dibber, and neatly trim off all ragged ends of peat and moss.

When the potting is finished take the plants to the warm house and contrive to keep the compost in an equable state as regards moisture by damping the surface with water from the syringe, and frequently syringing between the pots. As soon as the young growths emit roots the supply may be increased, and when running freely in the compost a full supply will be needed, as they are rather thirsty subjects. The flower spikes will issue along with the young growths, and although they may without injury be placed in a drier atmosphere for a few days while in flower, it is not wise to stand the plants in cold or draughty rooms, otherwise the growth will be severely checked.

All the species like a good light, especially towards the latter end of the season, and for this reason they may be suspended from the roof if convenient. On the other hand, they must not be exposed to the sun's rays direct, as the foliage is rather thin in texture and easily damaged. The water supply must be continued right up to the time the growths have finished; it is a great mistake to dry these deciduous Orchids off quickly. As the foliage falls less water will of course be needed, and in winter only enough is required

to keep the bulbs plump, a lower temperature being also an advantage. The leaves are apt to be attacked with brown scale, and if the atmosphere is at all dry, thrips sometimes put in appearance. These must be given no chance of establishing themselves or healthy growth is quite impossible. Sponging with tepid water is the best remedy for scale, adding a little tobacco water for the thrips.

One of the prettiest in the genus is *C. aurea*, which produces pendent racemes of yellow flowers at various times in the year. It has the tips of the sepals and also the lips marked with red, and was introduced in 1834 from Venezuela. The most generally grown and popular is *C. bractescens*, a vigorous growing Orchid from Mexico. The blossoms of this kind vary considerably in size, those producing the longest racemes having usually the smallest blossoms and *vice versa*. The flowers are pure white in the sepals and petals, the lip being white in ground colour, with yellow markings in the throat and a few crimson lines in the crest.

C. Chelsoni is a hybrid raised by Messrs. Veitch, and is the progeny of *C. bractescens* and either *C. Limminghi* or *C. lævis*. The flowers have yellow sepals and petals with a blotch of purple, the lip white with spots of violet purple. *C. lævis* has yellow sepals and petals and a crimson spotted lip, while *C. Limminghi* produces pendent racemes of flowers, white with purple tips to the petals and sepals. The lip is white with rose and purple streaks and a suffusion of purplish red on the front. All are very useful Orchids, easily grown, free flowering, and of great interest to amateur cultivators.

CYPRIPEDIUMS.

THE old type of *villosum* is still one of the most useful of spring-flowering *Cypripediums*, and though sent home from Moulmein as long ago as 1833 it will be long before it loses its popularity. The variety *aureum* is a superb kind, and one that is worthy of care. It used to be said that hybrid Orchids always maintained their value longer than species or varieties; but judging by recent events it seems probable that these good varieties are much more scarce than those of hybrid origin, simply owing to the fact that crosses may be repeated and scores of plants raised, whereas the varieties turn up only at long intervals from importation. In the variety mentioned the dorsal sepal is a golden yellow tinged with green, and the usual dark markings in the centre. The pouch, too, is distinctly suffused with yellow, while the whole flower is large and of great substance.

C. calurum is one of a distinct set of hybrids, the most generally useful perhaps of all—viz., the *Sedeni* set of *Selenipedium*. This was, in fact, raised from *C. Sedeni* and *C. longifolium*, the latter being also one of the parents of the former. All these may be grown with the greatest ease by anyone having the convenience of an intermediate or Cattleya house temperature, and owing to their very free flowering nature they are of the utmost importance in keeping up a display of blossom.

The well-known *C. caudatum* is not yet open, but as a distinct and beautiful kind will be hard to beat. A much more recent species, but one fortunately cheap and plentiful, is the distinct and handsome *C. Chamberlainianum*, introduced from New Guinea in 1892 by Messrs. Sander & Co. This seems perfectly at home under ordinary cultural conditions in a shady part of the stove, and is certainly destined to become one of the most popular in the genus. *C. Dayanum* again is remarkably fine, worthy of a place if only on account of its beautifully marked foliage. The blossoms are rather dull in colouring, of varying shades of purple, green, and white.

C. exul is quite a distinct species, that first flowered in England in 1892. Like *insigne* in habit of shape and flower, the first glance at the dorsal sepal is sufficient to distinguish it from that well-known kind; this organ is pure white in ground colour, with a large basal blotch of yellow, and several showy spots of deep purple. *C. Harrisianum* is another variable kind of hybrid origin—in fact, the first one was raised, I believe, by Mr. Dominy for Messrs. Veitch & Sons, who flowered it in 1869. The varieties of this kind are almost endless, perhaps the most distinct being *Dauthieri*, *nigrum*, and *superbum*. It is the result of a cross between *C. villosum* and *C. barbatum*.

C. Lathomianum and its varieties are choice and beautiful hybrids, showing the distinct dorsal sepal of *C. Spicerianum*, its seed-bearing parent, and the general contour of the male parent, *C. villosum*. *C. Lawrenceanum*, too well known to need describing, is in flower in many fine varieties, while there are still a few flowers of that fine hybrid *C. Leeannum*, and its near relation *C. Electra*. *C. Measuresianum*, *C. nitens*, *C. cœnanthum*, and *C. œ. superbum* are also in flower—indeed, the number of truly fine members of the genus is as large now as at any time in the year.

Space could not be found to mention all, but these named are sufficient to make a very fine display; and as nearly all are cheap and easy to obtain, there is nothing to prevent any amateur orchidist who likes this class of plant from having quite a gay flowering house at this season.—H. R. R.

SHORT NOTES ON TOMATO CULTURE.

TAKING advantage of the Editor's permission expressed in the one word "granted," in the Journal for February 29th, page 180, I purpose giving a brief note on my mode of culture of the Tomato; not that there is anything new or likely to cause a sensation in it, further than being thoroughly successful and satisfactory both to myself and employer. The variety I grow is *Perfection*, and the plants are exclusively from home-grown seed. This year I am growing *Frogmore Selected* in addition to the one above named. Respecting its merits over *Perfection* I can say nothing at present, as I have not yet tried it.

My seeds were sown about a month ago, and the young plants are now 2 inches high, but had the weather been anything like last year they would not have been sown so early. I am a firm believer in making a good start and never allowing young plants of any kind to be checked in their growth. I would rather sow the first week in February than in November or January if I could not keep my plants moving steadily along, as I think the former would be far superior to the latter.

As soon as the plants are large enough they will be transferred from the seed pans into 4-inch pots, using a compost consisting of two parts loam, one of leaf mould, with a little charcoal and wood ashes. The mixture will be placed on the hot-water pipes a day and night to become warmed before using. The plants will remain in these pots until they are filled with roots and are about a foot high, by which time the fruiting pots will have been thoroughly cleaned if they require it and drained with an inch and half of clean drainage, the size of the pots being 12 inches. The compost also will be ready, and consist of three barrowloads of turf of an open nature cut from the roadside, one of fresh horse droppings, a bushel of charcoal, and a bushel of wood ashes. For top-dressings the same compost is used with more wood ashes and charcoal added. On the drainage is placed enough of the coarse soil to cover it, and on that sufficient fine soil to start the young plants in. The pots are then taken into the same house that the plants are growing in and allowed to stand until the soil is sufficiently warm, when the plants are then turned out of the 4-inch pots and placed close to the side—not in the middle—of the fruiting pots. They quickly produce fresh roots in the warm soil and grow at a rapid pace.

By the time they have grown 6 inches above the rim of the pots—as it will be seen that potted in this way they are low down—if no fruit presents itself they are layered straight across the pots with just enough soil put on to cover the stems. Every bit of stem thus buried emits roots as thick as it is possible for them to come out, and the growth in stem and leaves, both in length and substance, is in proportion to the number of roots thus produced, while the fruit will in many instances be close to the soil. Last year I had to tie up several bunches in order to keep them clean. When from 3 to 4 feet of growth is made, and the soil is well filled with roots, another layer 1½ inch thick is added, and, as required, another, and yet another, until the pots are quite full. This addition induces young roots each time it is added, not only upwards, but from the stems also. In addition to these top-dressings of soil each plant is treated to a handful of blood manure, made on the place.

It is a decided mistake in growing Tomatoes to pot them in the ordinary way. The plan I have described forces the plants to make stout, short-jointed stems with a good truss of blooms at every joint, as I grow them cordon fashion and take out every lateral as soon as large enough to handle. When I first commenced the cultivation of the plants I potted them in the ordinary way, with the result that instead of short-jointed growth I got long, sappy growth which sometimes went a yard or more above the pot before a truss of fruit was seen. As the plants and the season advance the plants naturally require larger supplies of water. This is never given cold, but taken from a tank in the house, or, that failing, water is set out in the sun, of which we had quite enough last year, until sufficiently warm and soft. Liquid from the manure pit is freely used at this stage with occasional sprinklings of wood ashes and blood manure. The length of stem secured by this means is extraordinary. Nearly every plant goes up to the ridge of the house and half way down the opposite side, as the house is quite full of plants a row on each side next the glass. From my Tomato house, which is 22 feet long, I secure a constant supply of fine fruit for six months.

With regard to the setting of the fruit I have no difficulty at all, as abundance of air is admitted whenever practicable, and after the 1st of May an inch of air is kept on night and day all round the house. This keeps the plants dry and prevents any condensation on the leaves, which if allowed is a certain source of danger. The plants are never syringed and no water is put on the floor, but the house is kept as dry as possible, and up to the present time I have had no trouble with eelworm, spot, or fungoid pests.

I secure my wood ashes by burning all garden refuse and pruning. I have a cartload at the present time.

As the household bread is baked in the scullery twice a week in a brick oven heated with sticks, I get about a peck of charcoal at a time direct from these. I have secured about half a cartload during the autumn and winter.

About twenty sheep are slaughtered during the winter, and the blood is caught each time. This is mixed with dry sand to absorb it instead of chemicals, and so I get my blood manure—and Tomatoes.—WM. WEST CHAPMAN.

HARDY FLOWER NOTES.

LION-LIKE has come in this month of March, and we can only hope that the old adage may prove true, and that, as it has come in like a lion, it may go out like a lamb. It may be so, but in the meantime, as I write, it is truly

“Amazonian March, with breast half bare,
And sleety arrows whistling through the air.”

And we gaze compassionately upon the flowers, which look up beseechingly as if praying these showers to cease their pitiless fall. They remind us of the words of Ossian:—

“The flower hangs its head, waving at times to the gale. Why dost thou awake me, O gale? it seems to say. I am covered with the drops of heaven. The time of my fading is near, the blast that shall scatter my leaves.” And we mourn at the thought of the beauty which is suffering defacement so that soon these delicate forms may only be the semblance of their former selves. But why need we linger in the valley of melancholy? for there are enfolding before our eyes other flowers to be our sweet consolers.

Fair are these flowers and wise, too, are many, for they come with drooping heads and wand-like stalks which bow before the storm and thus deprive it of its power; and they shelter in nooks and corners where they are not exposed to the full fire of these arrows of the air winged by the bows of March. So do we think as we look lovingly on these fair Daffodils which with unsurpassed gracefulness and tints of soft golden colour have come to grace our garden's bounds, and nod to and fro as if enjoying the storms which transform the gay Crocus into a soaked and colourless wreck.

Brave and hardy are these early Daffodils, as they are fair, and with the coming of these skirmishers we are forced to throw open to them the citadel of the heart so that the succeeding host may find free entrance. They tell us of a time of rare delight when among the garden's treasures the gold and silver of the Daffodils shall mingle with the amethyst of the Forget-me-not, the ruby of the early Tulip, and the emerald of the leaves of spring among and around them all. Need we say more? for the thoughts of the lover of flowers can imagine the joyous time when among these gems we shall wander and find a pleasure which palls not. Meanwhile the garden has its treasures seeking our admiration and compelling our praise.

Adorning the top of a rockery is a little alpine Rhododendron, named *R. præcox*, which none can see without calling forth their expressions of pleasure. There is something almost ethereal in its petals, so fragile are they, and it seems incredible that it should brave so early a season. It is one of those little shrubs which add so much to the adornment of the rock garden that it cannot well be done without. It is, I understand, a hybrid, but as I have seen different accounts of its parentage, neither of which I can verify, I shall not say much upon this point. It covers itself profusely with its charming peach-coloured flowers, which, fragile looking as they are, seem almost unmindful of the weather. The hard winter of 1894-1895 seemed to suit it quite as well as this mild one, and this although it is pretty well exposed, and a more sheltered place might have been at command.

At the base of the rockery on which this little alpine Rhododendron grows I seem at length to have established the quaint little Cyclamen-flowered Daffodil (*Narcissus cyclamineus*), and very pretty indeed is it with its bright colour and its long conspicuous trumpet; conspicuous because its perianth segments do not come over it like a hood, but are reflexed like those of the Cyclamen. It seems to like this somewhat dampish spot, where it also gets a

good deal of sun, and one can only wish for a colony of this little Daffodil with its deep yellow flowers. A score or more in bloom in a low nook like this would be exceedingly pleasing.

Yet though the quaintness of the reflexed perianth gives this little Daffodil a great deal of its charm, the soft-coloured flowers of *N. pallidus præcox* with their hoods of the normal form, look more graceful, larger though they are. It is gradually increasing, not only by means of offsets, but also by seedlings and by the purchase of a few bulbs occasionally. It is prized for its delicate colouring, its earliness, and its form; and as mine is one of the gardens in which it does well, one can enjoy it to the full, especially on the rockeries, where it spears through some of the dwarfed Alpines, whose foliage forms a delightful carpet in harmony with this pale early Daffodil.

The beautiful little *N. minor* is rather plentiful with me, and several little clumps are most pleasing. Like *N. pallidus præcox* it does well; but I have been less successful with the pretty little *N. nanus*, which has always succumbed to that enemy of the Daffodils—basal rot, which I am glad to say afflicts only a few of my Narcissi. *N. minor* is such a perfect little flower that it should be grown in quantity, and is never seen to such advantage as on rockwork, where its flowers not only show better, but keep cleaner than in the border.

Exquisite is the bit of colouring shown by the large Gold-Netted Iris (*I. reticulata major*), with its deep blue flowers and its golden crest. These Irises are the perfection of form, and one might almost say the perfection of colour also, so velvety do the flowers appear, and so deep the colouring. It seems as if it was impossible that such a flower could be a prey to one of those fungoid diseases, which are the despair of the bulb grower, and yet its beauty cannot ward off the attacks of the destroyer. I am disposed always to attribute some of the immunity of my garden from this to the saline atmosphere; but when one remembers that this does not keep away the Snowdrop disease nor basal rot, the fear grows that some day that bane of the Gold-Netted Irises may appear.

Very pretty, too, in the rock garden are the violet-rose flowers of *Primula marginata*, now beginning to appear. There are several varieties in my small collection of hardy *Primula* species, and among these one of the best is that known as Dr. Stuart's variety. It is both pretty and free-growing, and, like the other varieties of *P. marginata*, pleasing, even when out of flower, on account of its prettily margined leaves. There is now a little clump of this variety in a pocket filled with sandy peat on the east side of one of the rockeries, where it is nicely in flower, and braves all weathers unprotected. *P. marginata* is one of the European species, and, in Mr. J. G. Baker's "Synopsis of the European Species of *Primula*," read at the *Primula Conference* in 1886, was included in Group III.—*Auriculastra*. The young leaves involute, calyx short, both tube and teeth; and in the true *Auriculastra*, of which the leaves, calyx, and pedicels are not viscid. It comes from the Alps of Dauphiné and Piedmont, whence it is said to have been introduced in 1777. *P. marginata* is increased by division and seeds, and should not be confused with one known as *P. auricula marginata*.

Attractive, too, is a small carpet of *Saxifraga pyrenaica superba*, or, to speak correctly, *S. oppositifolia pyrenaica superba*, burdensome as is the name to a little plant like this. Superb Pyrenean Rock-foil is, I believe, its true English name, and while the adjective superb is suitable enough for purposes of comparison with other plants of the same section, the low stature of this Rock-foil makes the names hardly appropriate, unless applied to the colouring alone, or to the size of the flower. The flowers are very large for this section of the genus, being nearly an inch across, and they are of a bright rosy-lilac, which is very pleasing. The leafy stems are larger than those of the typical *oppositifolia*, and the plant rises a little higher above the soil than it. Some of my friends appear to have some difficulty in keeping a plant of this variety to any size, and divide frequently, but I have not much trouble in that respect. It is grown among stones on the nearly level terrace of a rockery with a western aspect, and quite unshaded, but where it is frequently watered in dry weather in summer, most of the water being poured at the back of the plant until the soil is thoroughly soaked. The Opposite-leaved *Saxifragas* flower better on a western aspect than on any other. *S. o. p. superba* may be propagated by division, cuttings, or seeds.

Delightful, too, are the Glories of the Snow, now in full flower with a few exceptions. Space will not permit of lengthened reference, but more than a passing mention is deserved by the charming *Chionodoxa sardensis*, the beautiful *C. Luciliæ*, the fine flowers of *C. grandiflora*, or the still finer ones of *C. Alleni*, which have just unfolded.

Then there are *Anemone blanda*, with its pretty blue starry flowers, *Scilla sibirica* in variety, *Scilla bifolia*, Snowflakes, Hepaticas, some late Snowdrops, Primroses, *Sisyrinchiums*, Heaths,

Ranunculus rutæfolius, and *Saxifrages* *Boydii*, *Sancta*, *apiculata*, and others. *Primula denticulata* and some other gems which have dared the storms are also in bloom, and may, long ere this is in type, be basking in the soft sunshine of spring.

May it be so, and may the many admirers of these hardy flowers have cause to remember with delight this present month of March, which brings with it many bright blossoms of more than common beauty.—S. ARNOTT.

FLORAL FACTS AND FANCIES.—17.

THOUGH not, perhaps, frequently noted by those who watch for Nature's signs of spring, some species of *Speedwell* is one of the earliest wild flowers. During a winter that is mild, such as the one now taking leave, it is not difficult to find a *Speedwell* blooming in February, or even in January, along fields and lanes. Indeed, it is almost a plant of every season, for in the country some kind or other seems constantly in leaf at least, if it is not displaying flowers. Then, amongst our garden *Speedwells*, the *Veronicas*, we have evergreen varieties, and several that, when sheltered, will continue in flower through the autumn.

For a long period the more conspicuous wild species have borne that familiar English name, because it was supposed that they afforded encouragement to the traveller, who, seeing them, would be likely to speed well on his journey. He might feel glad of a hopeful omen in the olden time, for dangers and difficulties were common then along English roads. Possibly the plants acquired this meaning from their being named after St. Veronica; it has also been remarked that their fragile and graceful aspect justifies their association with a woman who is said to have acted a compassionate part during a great event of our world's history. For this reason, too, in some countries, all *Veronicas* are thought to represent "female fidelity," yet it must remain doubtful whether this saint was a real or a fabled personage. One of the earliest to flower of our wildings is the green recumbent *Speedwell* (*V. agrestis*), though it is run closely by the Ivy-leaved (*V. hederifolia*) which, from the shape of its leaves, became one of the many floral symbols of "friendship." Indeed, the Norfolk people used to call it "Winter-weed," and another name for it was *Henbit*, on the supposition that poultry liked its succulent leaves. Of some spring species, which seemed to be peering up from the brown earth, a poet wrote—

"On arching stalk, of bright blue dye,
And with a round and pearl-like eye,
Distinct it shows."

But the comparison of a *Speedwell* to an eye is not uncommon. Country children call several species "Cat's Eyes," and some of their flowers have been thought to resemble the eyes of birds. Ebenezer Elliott fancied the *Germander Speedwell* had just the tint to be seen in the eyes of some infants; in fact, one of the old names for it was *Eyebright*, though that rightly belongs to the *Euphrasia*, Milton's "euphrasy," greatly valued as a remedy in eye diseases, and which has by recent experiments been proved to have a slight efficacy. It is supposed that the name of "Germander" given to *V. chamædrys* is an allusion to the aromatic qualities possessed by this and other *Speedwells*. The officinal species in particular has been frequently used for tea on the Continent, though its bitterness is not a recommendation. Possibly the freedom with which it grows, spreading over the banks its masses of flowers and foliage, made the *Germander* an emblem of "facility." Paul's *Betony* was an old name for *V. serpyllifolia*, and the pretty aquatic *V. Beccabunga* takes its odd Latin name from the German *bach-pungen*, somewhat perverted, referring to its pungency and growing along a beck or brook, which is also expressed by the English one of *Brooklime*; our ancestors picked it for salads, whereat we wonder. Few would imagine that the stately *Mullein* or *Verbascum* is akin to the *Speedwells*, yet the structure of the flowers associates them. Symbolic of "good nature," it is a flower increasingly cultivated, some of the yellow, white, and purple varieties being attractive.

The word *Verbascum* seems to have been originally *Barbascum*, referring to the shaggy hairs which clothe most species; hence, too, the popular name of *Blanket Plant*. The flower heads are in some parts of Switzerland carefully picked while the dew is upon them, and preserved for use as applications to the skin. Our native *V. Thapsus* was formerly called *High Toper*, and the White *Mullein* was the "Candleweek flower," but whether the plants at one time served as torches or tapers when dried is uncertain. I do not know that the Moth *Mullein* (*V. blattaria*) has more visitors of the moth tribe than other species, and the idea that it has a repelling effect upon cockroaches or blattæ seems a mere fancy, though it is still placed in country kitchens for this purpose. No great stretch of fancy was required to see in the flowers of *Antirrhinums* and *Linarias* a resemblance to the heads or mouths of some animals, and the ringent corolla of some of the species seems to have suggested the idea of "presumption." Besides the

common name of *Snapdragon*, we have others of like meaning given to this tribe, such as *Bull Dog*, *Lion Snap*, and *Rabbit's Mouth*. That of *Toadflax* belongs specially to those species that have finely cut leaves resembling those of the *Flax* or *Linum*; a notable example is the yellow *Toadflax* or *Snapdragon* (*Linaria vulgaris*), the flower being light yellow at the lip, while the centre is deep orange, is called by some villagers "Butter and Eggs." The juice of this species is somewhat acrid, and it has been expressed to be mixed with milk for a fly poison. Anne Pratt addresses the plant in verse—

"And thou, *Linaria*, mingle in my wreath
Thy golden dragons, for though perfumed breath
Escapes not from thy yellow petals, yet
Glad thoughts bring'st thou of hedgerow foliage, wet
With tears and dew."

Though our ancestors did not know how to obtain varieties of *Antirrhinums*, they brought from the Continent *A. majus*, which now grows seemingly wild in several counties. It was known to the Greeks by the name of "Dog's Head," some think, and is the parent of many garden sorts; also they imported from Italy the pretty creeping *Linaria Cymbalaria*, the "Mother o' Millions," which has also been called "Roving Sailor," and spreads so freely upon walls. Its leaves are pungent and fleshy in shape, approaching those of *Ivy*. Possibly, too, the *L. repens*, with pale blue flowers, which have slight fragrance, is not a native; it occurs chiefly on chalk near the sea and is rare, but found in places as remote as Kent and Cornwall. A curious peculiarity marks the capsule or fruit of the Lesser *Snapdragon* (*L. minor*), it rather resembles the face of a monkey. Some of these plants were occasionally called "Fluellins," which was applied vaguely to very different species.

Spiræas are plants that are certainly popular, for we frequently see them carried by the street hawkers of flowers. The scientific name alludes to the manner in which they expand, appearing like wreaths; the name of Italian *May* is less suitable. 'Tis a flower, that reminds one of embroidered lace, says an author, of our wild *Meadow Sweet*, or *Queen of the Meadow* (*S. Ulmaria*), yet though thus titled it is symbolic of "uselessness," and it may be dangerous, for the fragrant and peculiar perfume of the plant has been known to cause faintness or nausea when persons have inhaled it in a confined atmosphere. It was thought formerly that the flavour of some kinds of green tea was obtained from the blossoms or leaves of a *Spiræa*, but this seems to have been a mistake. The *Dropwort* (*S. filipendula*) has not much scent. A double white variety of this is much cultivated, and at one time the Willow-leaved species (*S. salicifolia*) was often planted about shrubberies, as it will stand any amount of moisture; some new species have been introduced with crimson or purple flowers.

Yearly the demand for *Potentillas* increases, many double varieties being grown of these hardy plants, which so well suit the mixed border, and remind us of the *Roses* to which they are related. In floral language they speak of "parental affection," perhaps because in the common *Silverweed* (*P. anserina*) of marshes and roadsides, a silky down enwraps the expanding foliage. Though called *Cinquefoils*, a few of them have ternate leaves. Some years ago it was not unusual to see in London suburban gardens a *Judas Tree* (*Cercis siliquastrum*) flowering freely, these appearing before the leaves from old branches as well as young wood, and even from the trunk; they are purplish pink, followed by flat pods 5 inches long. It was introduced in 1596, and, being somehow associated with a traitor, is an emblem of "betrayal."—J. R. S. C.

CANON HALL MUSCAT.

IN Mr. Taylor's paper on "Modern Grape Growing" in the *Journal* for February 20th (page 165) it is there stated that Canon Hall Muscat is perfectly round in berry. If this is so, the Grape I know under the above name cannot be the true Canon Hall. I have always regarded this variety as having roundish oval shaped berries, but it seems this is not the case. Then, surely, this must be the variety that used to be known as *Escholata*, as Mr. Taylor says. A Grape that is not known by this name at the present day.

Can any reader of the *Journal* oblige by giving the history and origin of these two Grapes? I remember many years ago Muscat *Escholata* being purchased from the firm of Messrs. J. & C. Lee, Hammersmith. I assisted in the planting, and had the pleasure of seeing the Vine produce a noble bunch of fruit, and when speaking to anyone about Muscat Grapes the picture of this bunch with its huge oval shaped berries always crops up before me, and I seldom fail to make inquiries about it. Few persons, however, have heard the name, though I have occasionally been told it is synonymous with Canon Hall, and had come to this conclusion myself until I read Mr. Taylor's remarks.

Is it too much to ask if anyone has this Vine growing under the name of *Escholata*, will they oblige by giving a description, and its behaviour as regards its setting qualities? I am about to plant some Muscats, and if I find there are two distinct varieties I shall be inclined to try them with *Alexandrias*. The Vine I assisted to plant has been done away several years ago.—J. EASTER, *Nostell Priory Gardens*.



WEATHER IN LONDON.—While the weather generally has been mild during the past week, we have, at times, experienced some very cold winds. Rain fell at intervals until Monday morning, when it cleared, and the weather has remained mild and open since. On Wednesday, however, rain again fell in torrents.

— WEATHER IN THE NORTH.—The 11th and 12th inst. were two beautiful days, with 6° frost on the morning of each. The rest of the week ending the 17th has been a jumble of frost, thaw, snow, sleet, and rain, with high westerly winds since Sunday afternoon, which was fair but cold. Monday and Tuesday were both windy and wet, with a low barometer, promising little improvement.—B. D., *S. Perthshire*.

— ROYAL HORTICULTURAL SOCIETY.—The next fruit and floral meeting of the Royal Horticultural Society will be held on Tuesday, March 24th, in the Drill Hall, James Street, Westminster. At three o'clock a lecture will be given by Mr. W. Iggulden on "Saladings."

— THE NATIONAL TESTIMONIAL TO MR. BARRON.—We are requested to state that the General Committee which was formed to promote this testimonial will meet at the Hotel Windsor, Victoria Street, S.W., on Tuesday next, at 2.30 P.M., to make arrangements for the presentation.

— POTATOES.—Under this simple but comprehensive title Mr. Arthur W. Sutton, F.L.S., has published in manual form the extremely interesting lecture that he gave at a meeting of the Royal Horticultural Society last October. The work is beautifully printed and instructively illustrated. It contains an admirable record of facts connected with the history and progress of the invaluable food crop to which Mr. Sutton has devoted so much attention. An article on "Potatoes, Ancient and Modern," that appeared in the *Journal of Horticulture*, forms a preface to the manual, which is published by Messrs. Simpkin, Marshall, Hamilton, Kent, & Co. It is a work to be obtained and preserved.

— URIAH PIKE CARNATIONS.—This is by no means a tree variety, its habit being that of the border type. Last spring a number of plants that would have flowered like border kinds in 5 or 6-inch pots had the spike removed, with the object of inducing the plants to flower in the autumn. They did well, being kept under glass the whole of the season. The result was that only one spike was produced. The plants are growing and spindling for bloom now. They are, however, no earlier than a number layered early outside, established in 3-inch pots, and then placed into 6-inch.—W. BARDNEY.

— THE NATIONAL VIOLA SOCIETY.—A large gathering of enthusiasts of this genus of charming flowers was held in the Guildhall Tavern, E.C., on Tuesday, the 17th inst., when a resolution, passed at a recent meeting of the members of the London Pansy and Violet Society, that they incorporate themselves under the broader title of National Viola Society, was unanimously carried into effect. The officials are to be:—Mr. William Robinson, F.L.S., President; Dr. Shackleton, Chairman of the Committee; Mr. H. A. Needs, Hon. Treasurer; Mr. Richard Dean, Superintendent of Exhibitions; Mr. A. J. Rowberry, Hon. Secretary; and a strong Committee of amateur and trade growers. Under the title of Viola, Tufted, Show, and Fancy Pansies, as well as all the other types of the genus, will be encouraged. It is proposed to hold one or more exhibitions, with a Viola Conference, during the forthcoming summer in the gardens of the Royal Botanic Society, Regent's Park, N.W., the Council of the latter Society having kindly offered accommodation for the same, with facilities for a practical trial of plants in the Society's gardens. A Floral Committee will be appointed to sit periodically during the season to adjudicate on the merits of seedlings or sports that may be submitted to them, with a view to certificates for the same being granted, particulars of which, together with the schedules of the Society, will be issued at an early date. The Hon. Secretary (Mr. A. J. Rowberry, The Crescent, South Woodford) will receive the names of ladies or gentlemen desirous of joining the Society. The annual subscription is 5s., which will include all entries with free admission to the exhibitions and conference.

— THE ROYAL GARDENERS' ORPHAN FUND.—We have the pleasure to announce that His Grace the Duke of Bedford has kindly consented to take the chair at the annual festival dinner on June 18th.

— GARDENERS' ROYAL BENEVOLENT INSTITUTION.—The Right Hon. the Earl of Lathom, G.C.B., P.C. (the Lord Chamberlain), has kindly consented to preside at the fifty-seventh anniversary festival dinner in aid of the funds of the Gardeners' Royal Benevolent Institution, to be held at the Hôtel Métropole on May 30th.

— ROYAL BOTANIC SOCIETY OF LONDON.—The Secretary of this Society writes:—"It seems not to be generally known that gardeners of Fellows of the Society can obtain free admission to any of the Society's shows at the Gardens, Regent's Park, between the hours of six and ten in the morning, before the judges go round, by an application from the Fellow or Member to the Secretary at the Gardens, when passes will at once be forwarded."

— SHIRLEY GARDENERS' MUTUAL IMPROVEMENT ASSOCIATION.—The annual general meeting was held at the Parish Room, Shirley, Southampton, on the 16th inst., the President, Mr. W. F. G. Spranger, C.C., presiding over a good attendance. The report showed that the Society was in a fair position, having 140 members on the books; and that during the past year fifteen lectures had been given, the average attendance being fifty-two. The accounts showed a balance in hand of £1. 16s., but there was still a few subscriptions owing, which might be expected to increase that balance somewhat. The election of officers resulted in the re-election of the retiring members, including the President and Vice-Presidents.

— APPLE RIBSTON PIPPIN AND "CANKER."—On page 207 there is a reference to this subject. It may be remembered by some readers that a controversy occurred in the *Journal* some years ago, and that I made some experiments with this Apple on my insect theory. I will only say that to-day my tree, which I grafted and afterwards white-washed, with the addition of soap in the mixture, is as free from canker and as healthy, I imagine, as any tree in existence. I may repeat that I completely encased both stock and graft, and the shoots came through the whitewash. As this is the season for grafting some may be induced to try the experiments and report results at some distant date. My tree has stood the test of many years.—J. HIAM.

— CLEMATIS DAVIDIANA.—I imagine this dwarf habit species is not much grown. Certainly, judging from the number of people who have seen it flowering, and who, one and all, have confessed to knowing nothing about it, it appears to be quite unknown. This, if a general fact, ought to be remedied. The plant is quite hardy, it possesses foliage of much beauty, it flowers abundantly, and these are so distinct and sweet that while it attracted everyone nobody has guessed the name of the family of which it is so desirable a member. The inflorescence proceeds from the axils of the leaves. The flowers are small, somewhat like the pips of the Hyacinth; in colour a light greyish blue, very sweetly scented, and arranged closely together in small capitular trusses. The plants I have are growing on a rough rockery, and as the stems droop over the stones this position appears to exactly suit them. After the foliage falls the plants are pruned to strong huds. Though I have not propagated any plants, I have no doubt cuttings would root in as great a proportion as in the case of *C. Jackmanni*.—GARDENER.

— HORTICULTURAL CLUB.—The monthly dinner and conversation took place on Tuesday evening last at the Hotel Windsor. The chair was occupied by Sir J. D. T. Llewelyn, Bart., M.P., and Thiselton Dyer, Esq., was the special guest of the Club. There was a large attendance of members and friends, including Mr. Alderman Skewes-Cox, M.P., the Rev. W. Wilks, Messrs. H. J. Veitch, H. Herbst, James H. Veitch, E. J. Cockett, H. J. Pearson, C. E. Pearson, A. H. Pearson, George Paul, George Nicholson, A. F. Barron, George Bunyard, Harry Turner, T. F. Rivers, R. Johnson, and the Secretary. The health of Mr. Dyer was proposed by the Chairman, as was also that of Mr. Skewes-Cox and the other visitors, and both were suitably acknowledged. Mr. George Paul then read an able and interesting paper on "The Resurrection of the Older Sorts of Roses," which gave rise to a lively discussion in which many interesting facts were elicited. The conversation was closed by a few remarks from the Chairman, who thanked Mr. Harry Veitch for the beautiful flowers with which the table was decorated, and Mr. Rivers for some English-grown Oranges. The dinner altogether was a great success. We hope to publish Mr. George Paul's paper in a future issue.

— GARDENING APPOINTMENT.—Mr. Lewis Warne has been appointed head gardener to Harry Quilter, Esq., Bryanston Manor, Mitcham, Surrey.

— PEAR NAIN VERT.—This is not suitable for double grafting; the growth is too restricted, and the graft does not produce a tree robust enough to be anything but a dwarf curiosity. It will produce fruit of a good size for a time. I remember the late Mr. André Leroy when on a visit here saying, with some glee, "Ah! I have found a dwarfing stock much superior to the Quince." These were seedlings from the Nain Vert, but he was disappointed in the experiment; the stocks were dwarf enough, but they were of no practical value. My father thought as M. André Leroy, and grafted strong-growing sorts on the Nain Vert, but to no purpose. The Nain Vert Pear, like the Nain Aubinel Peach, is a curiosity, and nothing more.—T. FRANCIS RIVERS.

— MILLED CARROT SEED.—It is a question if beyond making the seed easier to handle, that any advantage accrues from depriving Carrot seed of its natural beard, because the machine used for the purpose, unless carefully manipulated, is apt to bruise a good deal, especially if new, and interfere with its germination. Much of the Carrot seed grown in dry foreign climates loses its beard during the process of harvesting, and if our moist element permitted it this natural removal is preferable to artificial methods; however, while there is a demand for milled seed it must be met. We have a machine that will clean 1 cwt. in ten minutes, and it has just lately dressed one parcel of 15 tons.—JAMES CARTER & CO. [As Polly says on the bird seed posters, "Good old Carter."]

— THE NEW FOREST.—I suppose Mr. Rivers was but indulging in a little joke when he asked what nurseryman in William the Conqueror's day planted the New Forest. We might ask, who was it many hundreds of years ago that planted the then undiscovered forests of America, India, and of the Australias? How these wonderful tracts became originally afforested would indeed be interesting to learn, but certainly no nurseryman, other than old Nature, had a hand in the work. I expect very much may be said with regard to the New Forest, and that what portions were afforested in the days of the Norman kings were so by seed-sowing rather than by planting. The tradition as to the death of King Rufus, however, shows, if it be true, that the forest practically existed at the time of its afforestation. No doubt it was chiefly owing to the existence of vast areas of woods at the time that it was so set apart as a Royal forest. Howsoever formed, certainly there was no reason to assume that Nature did not in its creation play the same important part that it played with such wonderful success in prehistoric days, when forests existed far beyond what can be seen to-day, or within the borders of history. I should add that an immense portion of the area included in the New Forest is not forest at all, but mere expanses of Gorse, Heather, Bracken, and Grass. It is these non-forest areas which render army manoeuvres possible.—D.

— READING AND DISTRICT GARDENERS' MUTUAL IMPROVEMENT ASSOCIATION.—Mr. T. Neve, Chairman of the above Association, presided over a largely attended meeting on the 9th inst. to hear a paper on "Some Little Grown but Meritorious Hardy Flowers," by Mr. Frank Tufnail, which proved to be of an exceedingly interesting character. Mr. Tufnail began by saying that in selecting this subject for the members' consideration and discussion it was not his intention to give the names of plants that were going to revolutionise the present flower garden and displace well known favourites, but rather to bring to their notice some little known or rather little grown hardy flowers deserving of equal favour and culture. He went on to say, "Some are of recent introduction, others are kinds which once graced the gardens of our forefathers and were banished by the carpet bedding craze; but the pendulum of fashion is happily swinging in the opposite direction, and herbaceous and other hardy subjects are being looked on with greater favour, so that in a few years we may hope to see more of the 'good things' that give our old-fashioned gardens so great a charm during the most pleasant months of the year. Many of the kinds which I shall bring to your notice are especially selected for cutting and table decoration, which at the present time is becoming an important feature in the life of the gardener, others are chosen for certain situations and seasons, but all are worthy attention, being simple of culture, require no coddling, pinching or pruning, and if left to Nature and to the gardener's eye will beautify and give an air of distinction to many a spot in the garden." The lecturer concluded by advising those present to grow a dozen of the kinds which they had not yet tried, as he felt sure they would be more than pleased with the result.

— AMYGDALIS DAVIDIANA ALBA.—At the time of writing this hardy flowering tree is in full bloom. The flowers are large, pure white, and therefore, apart altogether from its undoubted value as one of the earliest of all spring flowering plants, it would be a desirable tree to cultivate even if it had flowered at any other season. It is, comparatively speaking, a novelty, but it is certain as its good qualities become known to become very popular as an ornamental lawn tree.—B.

— MR. MARTIN HOPE SUTTON.—We learn on the best of authority that this gentleman, founder of the firm of Messrs. Sutton and Sons, Reading, reached the age of eighty-one years on the 14th inst. The authority is a letter written by himself to Mr. Turner of Slough, for a *Camellia fimbriata* that was required on the festive occasion. The letter is written in a style which for firmness and clearness many a young man might envy, and it carries our thoughts to past times, for Mr. Sutton observes:—"I had almost written to Mr. Charles Brown, your predecessor, and well remember him and Glenney conducting Queen Adelaide through the Dahlia show at Salthill." Many must be the friends who will wish for the hale and active octogenarian still "Many happy returns" of his natal day.

— WINTER MOTH CATERPILLARS.—As there is every probability of a renewal of what a few years ago was properly described as the "caterpillar plague" again in the coming season, fruit growers should be alive to the great importance of early action, before the bloom is open, when there is the least, if any, danger of damage with Paris green to foliage, or on account of the bees. As I annually keep a quantity of eggs of *Cheimatobia brumata* for experimenting and observation, I may say that to-day (March 9th) I casually looked at a glass bottle (honey jar) and found hundreds of the lively little loopers climbing about, and I usually find that there is only about a week difference in hatching out on trees in the open. The Plum aphides are increasing from the viviparous females.—J. HAM, *Astwood Bank*.

— CERTIFICATED APPLES.—As the single objector to the granting of a first-class certificate to Apple Blue Pearmain, as shown at the Drill Hall on the 10th inst., the variety having previously received an award of merit, which I regarded as quite equal to its merits, I would point out the somewhat anomalous position of the Committee in relation to a later award of the same merit only to a distinctly superior Apple in flavour, texture, appearance, and keeping qualities named Goodwood Pippin. Such an Apple as this forms an admirable addition to our late-keeping dessert varieties. As shown on the 10th the fruits were distinctly superior to Blenheim Pippin grown and kept under precisely the same conditions. With such a wonderful abundance of good Apples first-class certificates should be granted only to those of the highest excellence.—A. DEAN.

— WAKEFIELD PAXTON SOCIETY.—Programme of meetings for the first quarter, session 1896:—March 21st, "Manxland," illustrated by lantern views, Mr. H. S. Goodyear; March 28th, "Compost Heap," Mr. J. Eastwood, Stanley; April 4th, "Spring Flowers," Mr. W. Hudson; April 11th, "The Borderland of the Animal and Vegetable Kingdoms," Mr. J. W. D. McPherson, B.A.; April 18th, "Hardy Herbaceous Plants for Cut Flowers," Mr. J. Thomas; April 25th, "British Columbia," Rev. J. C. Kemm, Normanton; May 2nd, "Weeds," Mr. J. Burton; May 9th, "Hardy Deciduous Flowering Shrubs," with specimens, Mr. Ed. Skinner; May 16th, "There were Giants in Those Days," Mr. J. Clark, M.A., Ph.D., Yorkshire College; May 23rd, "Calceolaria," exhibition of specimens, Mr. G. Hudson; May 30th, Tulip exhibition. The Honorary Secretaries are Messrs. G. W. Fallas and T. H. Mountain.

— THE DRILL HALL SHOWS.—Although these Drill Hall gatherings are termed meetings, there can be no doubt but that they also fully merit the term of exhibitions. The last one without doubt included enough of material to have made, could it have been effectively grouped and fully displayed, a first-rate show. If this be the state of things early in March, what may not be looked for later on? Two things seem specially to merit the attention of the Council. The first is the putting of some moderate limitation on the table space allotted to each exhibitor, so as to insure that all are equally treated; and the second is acquainting the general public with the probable nature of the show, so that greater numbers may be induced to attend. At present, but for the gratuitous announcements in the gardening papers, nothing respecting the meetings would be made public. Surely, there are hundreds of persons in London who would gladly pay a shilling to see such beautiful flower shows. In respect of these matters the Council seems to be somewhat—well, not quite up to date.—F. R. H. S.

— IN Sebnitz, in Saxony, experiments are being made to cover real flowers and leaves with a metallic coating by means of galvanic electricity. A way of doing this has been invented, and the question now is, How to make such weatherproof flowers available for millinery purposes.

— MAKING FRUIT CANS.—An inventor in California has perfected a machine for making fruit cans which can be operated by a child, and which, according to the accounts, is very effective. Sheets of tin are fed into the machine at one side and sixty-four cans of any given size are turned out every minute at the other. All the joining of the seams and soldering are done, says a contemporary, by the machine, and a Californian dispatch says that a few of them in one factory would be able to supply all the cans used on the Pacific coast for fruit, vegetables, and fish at one-tenth of the present cost.

— CLEMATIS INDIVISA.—There is a fine specimen of this plant in bloom in the gardens of the Rev. H. G. Jebb, Firbeck Hall, Rotherham, that is worthy of notice. It is planted in a confined space about 2 feet square, under the stage, at one end on the south side of a span-roofed house, and is trained the whole length (about 30 feet) a few inches from the glass. One side of the house is completely covered with this creeper, the leaves of which are almost hidden by the flowers. I feel confident that I am well within the mark in saying there are tens of thousands of the pearly white star-like flowers, the trusses being exceptionally large. It presents a sight not easily forgotten, and which must be seen to be realised. On inquiring of the gardener, Mr. Egglestone, what treatment he recommended to obtain such good results, he said that the above plant is placed at the warmer end of the house (kept at greenhouse temperature), planted in good loam, with plenty of drainage, and is kept on the dry side at this season of the year.—S.

— STRAWBERRY "SIR HARRY."—Possibly one of the reasons why this good variety fell into disrepute in some quarters was owing to the fact that shortly after its introduction another, and much inferior variety, was sold for it, so great was the demand for the former at that time. In evidence of its good qualities at the present date, I may remark that Mr. P. Blair, at Trentham Gardens, informed me that of the 4000 pots he forces annually, both for early and late supplies, "Sir Harry" is the mainstay, as also for outdoor purposes, the remainder being La Grosse Sucrée, excepting a few of Noble as the earliest. Mr. Blair further remarked that of the several varieties he has tried at Trentham, the only ones to succeed well in all respects have been Sir Harry and La Grosse Sucrée. As regards "wintering" the forcing supply at Trentham, the pots are usually plunged in ashes under a south-west wall, and protected with fern; for nine or ten weeks during the severe weather last winter the plants remained covered up without harm, and they all carried a good crop of fruit afterwards. The bracken fern is indeed one of the lightest, cleanest, warmest, and generally useful commodities at the service of the gardener.—W. G.

— "KINDS" AND "VARIETIES."—I ask leave to refer to the need there is for continued expostulations as to the improper uses of these terms, simply because so many people who should properly understand them employ them so wrongly. I came across recently the following sentence, and written, too, by an eminent gardener, who in penning it did so, I am sure, in a moment of forgetfulness; yet is it a deplorable example of the confusion which prevails as to the fitting uses of these terms. "Amongst *varieties* noted for their good qualities we have some excellent *kinds* that present, of course, a terrible muddle, and when such confounding of terms get into schedules no wonder if later there are occasional outbreaks of strong language." If the writer in question had stopped short at excellent, or had been content to add "ones" in place of "kinds," his language would have been excellent also. But the incident admirably illustrates the confusion that exists. I have noticed that in the few criticisms on the recently issued code of rules for judging issued by the Royal Horticultural Society little or no exception has been taken to the rules as to the proper definitions and uses of the terms "kinds" and "varieties" therein laid down. Now, it does not seem too much to ask of everyone who may write for the papers or assist to prepare schedules, or be exhibitors at shows, to make themselves familiar with the definitions given, and to abide by them. In that way, and in course of time, we may so far get rid of doubts and difficulties, because everyone will equally employ the terms regularly and act on them. The term "sort" is but a repetition of "variety," but the latter is by far the more expressive. It is the special term in relation to variations of kinds that should be universally employed.—CODICUS.

— WOLVERHAMPTON HORTICULTURAL CLUB.—At the monthly meeting of the members of this Association held on the 10th inst., Mr. William Gardiner, Birmingham, read a paper on the "History and Cultivation of the Strawberry," being a modification of that given by him on the 2nd inst., at a meeting of the Birmingham Gardens Association. The essay was listened to with much interest. One of the members spoke highly of John Ruskin as a forcer, and that at the present time plants in pots of it were heavily clustered with fine fruit, an assertion which was corroborated by another member. A cordial vote of thanks was awarded to Mr. Gardiner for his interesting address, and in the acknowledgment of which he took occasion to comment on the utility of mutual improvement associations amongst gardeners.

— TRIALS AT CHISWICK.—The customary vegetable trials at Chiswick this year will, we learn, include Peas, Potatoes, Spinach, and Turnips. Sufficient for one season, especially if well done, as it is hoped will be the case. Raisers of Peas seem rather to injure their chances by sending in seed so late. That may, however, be due somewhat to the absence of any clear intimation as to what crops would be subjected to trial during the year. It would not be too much to ask that henceforth not only such subjects of these annual trials be determined upon early in the winter, so that full information might be diffused through the Press, but also that the Fruit and Vegetable Committee should be consulted as to what subjects it may be thought most desirable thus to submit for trial; were such the case no doubt the members would feel more interest in attending the Chiswick meetings.—FELLOW.

— THE VEGETABLE PRIMER.—I thank Mr. Iggulden for his kindly criticism of my little book on vegetable culture. He, however, wishes I had condemned the dibber as a planting appliance for Potato sets. I really do not know why. Last year I had to plant large quantities on eleven plots of ground and on soils of very diverse texture, but I had no reason whatever to feel that the use of the dibber was detrimental. If the soil about the tubers be through its use made a little firmer it does but help to keep newly forming tubers closer at home, and over the sets there is always found finer soil hoed in than is the general texture of the whole. That is an admirable feature in stiff soils. As to selecting Potatoes to suit various soils, I must say after last year's experience of seventy varieties on many soils, I think he would be a bold man who ventured to assert that one sort suited a certain soil better than another. Practically I found certain fine varieties gave generally the best results in most cases, but then they were so numerous.—A. DEAN.

RULES FOR JUDGING.

AS rather an old hand in adjudications at flower shows and in gardens I have been waiting for some criticism of the R.H.S.'s code of rules in the *Journal of Horticulture*, but so far little has appeared. I have read the code, and found nothing startling in it, and nothing new. I only find, put into a concrete form, the principles of judging, which I have carried out for years, and which every colleague I have acted with has carried out. Yes, even to the system of pointing, though, on perhaps a simpler, but quite as equitable, a basis as that set forth in the code for 1896.

I think we old provincial judges may set our minds at rest, for a time at least, fully satisfied that the officers of those societies for whom we have acted will decide to rely on the judgment of those who have served them well in the past, rather than trust to untried, though no doubt well qualified experts, who may be willing to come and judge every exhibit strictly according to the new code. I do not intend to criticise the rules, I am quite satisfied that the gentlemen who formed the Committee, and those who assisted them, either named or not named, did their very best, and generally speaking their best is very good; but, gentlemen, though all that you have said is true, it is not new. We knew it all before, and it bothers me why there should have been such a flourish of trumpets about the matter.

Now there is to my mind one great omission in the code, and that is, there are no rules for judging cottage gardens and allotments. It has been my pleasant duty, with a colleague, for a good few years now to judge the allotments on a large estate. Every year there will be ten to fifteen entries, and these will be separated one from the other by, say, two miles from one point to another. It will be seen that there is no way of arriving at an equitable and sound judgment but by points, and yet these points have to be somewhat elastic, because of the difficulty of arriving at the standard of judgment of the whole lots by a general survey of them on the principle set forth in Rule 30. Personally, therefore, I should gladly have welcomed any suggestions how to arrive at a true judgment of these allotments or cottage gardens, even though I might have differed from them, and of course, with the egotism of an old provincial, thought my own way the best. You see, in the country, what we know we know, or at least we think we do, and that is enough for—AN OLD PROVINCIAL JUDGE.



ROSE SHOW FIXTURES IN 1896.

- June 17th (Wednesday).—York.*
 " 18th (Thursday).—Colchester.
 " 24th (Wednesday).—Reading (N.R.S.)
 " 27th (Saturday).—Canterbury and Windsor.
 " 30th (Tuesday).—Sutton.
 July 1st (Wednesday).—Croydon and Ealing.
 " 2nd (Thursday).—Eltham, Gloucester and Norwich.
 " 4th (Saturday).—Crystal Palace (N.R.S.)
 " 7th (Tuesday).—Wolverhampton.*
 " 8th (Wednesday).—Hitchin and Redhill (Reigate).
 " 9th (Thursday).—Helensburgh.
 " 15th (Wednesday).—Ulverston (N.R.S.)
 " 21st (Tuesday).—Tibshelf.
 " 30th (Thursday).—Trentham and Worksop.
 Aug. 5th (Wednesday).—Chester and Chesterfield.†

* A show lasting three days. † A show lasting two days.

I shall be glad to receive other fixtures as soon as arranged, for insertion in my next list, which will be issued early in April.—EDWARD MAWLEY, *Rosebank, Berkhamsted, Herts.*

FARNINGHAM ROSE AND HORTICULTURAL SOCIETY.

THE annual exhibition of the above Society is fixed for Wednesday, the 1st July.

POSTPONEMENT OF THE WORKSOP ROSE SHOW.

WE are informed that the Committee of the Worksop Rose and Horticultural Society at a meeting held on the 11th inst. decided to hold their show on the 30th July next, instead of on the 9th July, as originally fixed. Is a late Rose season expected in the Midlands?

IN MEMORIAM—GEORGE PRINCE.

A FEELING of the very deepest regret has spread throughout the Rose world from the announcement of the death of one of the most redoubtable champions of the flower, for such undoubtedly the subject of this brief notice has ever been. It was in 1855 that he commenced business in Market Street, Oxford, and some years afterwards he entered on the occupation, in 1866, of the grounds of Longworth, some nine miles from Oxford, and where he energetically entered on a large cultivation of his favourite flower, especially the Tea and Noisette section.

It was more especially by the introduction of the seedling Briar as the stock for the Tea Rose that his memory will be always cherished by the lovers of that beautiful section. It took some time to convert people to this notion; to the trade it seemed a long time to wait, to the amateur who did his own budding the slender shoots made it far less easy to operate on than the Manetti. However, the splendid blooms which Mr. Prince from time to time exhibited and the grand plants which he sent out from Oxford soon convinced men that his contention was correct, at least so far as the Tea Rose was concerned, and I suppose it is hardly ever now budded on the Manetti. There is one variety in this section, and that the most beautiful I think of all, that will ever be associated with him—Comtesse de Nadaillac; when he exhibited a box of twenty-four of this variety in a favourable season it threw its spell over all the frequenters of the show, and whenever you met a fellow lunatic his first question was, "Have you seen Prince's box of Comtesse de Nadaillac?"

Some years ago a plant of Souvenir d'un Ami in his nursery sported into a pure white, for this he obtained the gold medal of the N.R.S. under the name of Souvenir of Sarah A. Prince, so called after his clever and amiable wife, whose memory is pleasant to all who can remember her in her Oxford home. In the year 1884 the activity and energy which he had always shown was sadly checked by a severe accident, for being thrown out of a light cart he became paralysed on one side, his heart also being considerably affected by the shock; he was no longer what he had been, but all recognised how bravely he endeavoured to put a good face on the matter, and always spoke cheerily and hopefully about himself. However, the severe shock he had sustained from time to time laid him by, but it will be a satisfaction to all who knew him to hear that during his last illness he suffered, comparatively speaking, but very little pain.

Among our many professional Rose growers there was no one I think more generally liked and esteemed than George Prince; his manners were quiet and yet withal genial; there was no pushing of himself forward, no self-assertion, but a quiet, gentle, and retiring disposition, which showed itself in all his intercourse with others, never speaking evil of them, willing to attribute to them the same kindly dispositions which he felt towards them. As an exhibitor he never complained of any decision in which he himself was concerned; he would sometimes express his opinion upon the judging of classes where he was not personally concerned, and his innate shrewdness, backed by a wide experience, always made his observations valuable.

And now we shall see him no more amongst us, and, personally, I not only mourn for him as a Rose grower, but as a friend, and I shall

be extremely glad if we could perpetuate his memory by a Prince Memorial prize. I hope ere long to give effect to this wish, for I think there are many who owe so much to him of their enjoyment in the cultivation of the Tea Rose that they will be willing to help forward such a movement. The business will be carried on, I am glad to say, under the world-known title of George Prince, by his two energetic and amiable sons, who have had, of course, of late years a large share in the responsibility and working of the establishment. His widow, whom all will remember at our shows as Miss Watson, is, I grieve to say, in a very sad state of health, and I feel sure that the sympathies of all who know her will be drawn towards her. Such, I feel is a short and very imperfect notice of my good friend, and I can only hope that the name of George Prince may ever be associated with the Tea Rose as that of Charles Turner has been with the florist flowers which he so ably cultivated.—D., *Deal.*

NOISETTES AND TEAS.

"H. D.'s" compositions to me are invariably interesting, but his experience of the manners and customs of Roses does not in all cases coincide with my own. For example, when characterising Grace Darling and Madame Lambert he affirms that "the former produces flowers of varying shades of colour, from buff to bright rose." In my garden, on the other hand, this beautiful Hybrid Tea is distinguished by one steadfast colour—creamy white, shaded and tinted with delicate peach. It has never, so far as I am aware, been hitherto described as "a Rose of surprises."

But what your contributor asserts of Grace Darling is eminently characteristic of Madame Lambert, which I sometimes call "The Chameleon Rose." I am, however, strongly disposed to believe that at least two entirely distinct Tea Roses exist, each of them bearing this familiar name. One of them is salmon, shaded with pink; the other is bronzy red. The former is the more vigorous and prolific of the two; it is also the more artistic.

Reine Marie Henriette, which I do not find very admirable, unless at a sufficiently early stage, is by no means very felicitously denominated by whoever thus originally named it a "Red Gloire." It is, indeed, a descendant of that magnificent variety, being a hybrid between Madame Berard and the venerable Général Jacqueminot; but except perhaps in the matter of growth (and even on this question I am disposed to be sceptical) it bears no resemblance to that remarkable Rose, whose name in my memory is invariably associated with the most superbly imposing effects; nevertheless, Gloire de Dijon, in beauty of form, is eclipsed by several, especially I think by Bouquet d'Or and Belle Lyonnaise.

Perle des Jardins is a precious climbing Rose, but unless in what may be called perpetuity, it cannot be regarded as a rival of Maréchal Niel. But I admit that it is better adapted than the latter by nature for growing successfully in the open air. While its flowers are not so delicately beautiful as Maréchal Niel, they are not so easily annihilated by frost or tarnished by rain. Even when Maréchal Niel is grown, as it is in my garden, on a sheltered south wall, it requires a very exceptional spring and early summer to insure its success. Perle des Jardins has this serious limitation, that owing to some eccentricity in its interior construction, it often comes "divided," and does not, therefore, invariably open well. Its anatomy is defective.

I quite coincide with your correspondent's estimate of The Bride, whose distinctive tender green shading beneath the snowy white, satin-like petals—an endowment inherited from Catherine Mermet—imparts to this variety a most unique aspect, but I regret that he did not also "individualise" that almost equally fine and exceedingly floriferous variation from Souvenir d'un Ami, Souvenir of S. A. Prince. Madame de Watteville is so distinctively coloured that it might be described as a florist's flower, like the famous Picotée Tulip.

The majority of his readers will harmonise with the opinion of your correspondent when he says that the Tea Roses "lead us up to a higher level of beauty" than the Hybrid Perpetuals. In any case their influence, though not so commanding, is more delicate and refined. Yet, if I had no other alternative, I think I would sooner part with Comtesse de Nadaillac than A. K. Williams, and would hesitate to surrender Mrs. Sharman Crawford for Princess of Wales. The noblest of all Roses are the Hybrid Teas, such as La France, White Lady, Caroline Testout, Gloire Lyonnaise, Kaiserin Augusta Victoria, Madame Pernet Ducher, and Viscountess Folkestone, in which majesty and tenderness, strength, and extreme sweetness are marvellously combined. Others may approximate more nearly to the almost absolute perfection of form required for exhibition; these are ideal Roses for the garden, where they reign supreme.—DAVID R. WILLIAMSON.

ANEMONE POLYANTHES.

OF the Windflowers inhabiting the Himalayan Mountains, numbering about fifteen altogether, probably not more than half a dozen are in cultivation at the present time, and that notwithstanding the large amount of seeds of various kinds imported annually from these localities. Those already introduced are much admired, and especially those with such a wealth of foliage and bold appearance as in the present instance. The wonder is that more attention is not given to collecting seeds of the others, many of which are said to far surpass those already introduced as useful garden plants.

Those annually received from the south of France, and which belong to the Anemonanthea group, seldom if ever give satisfaction to the

grower unless on the very lightest and sandiest soils, or in a particularly favourable situation. Where the locality is damp and the soil clayey, success is almost impossible, and even if they grow they must be lifted when they have flowered, submitted to a process of roasting, stored away

indeed, the situations worst suited to *A. coronaria* and *A. fulgens* are just the places in which the others thrive best; the cooler and more shady, provided the drainage be good, the better will they grow and flower.



FIG. 47.—ANEMONE POLYANTHES.

for a time, and then replanted, all of which entails a large amount of labour, the more so grown in quantity, hardly to be tolerated in the average garden, especially at so busy a season of the year. Some of the Himalayan species are just as brightly coloured as the European sorts, besides having the advantage of being perfectly hardy in all situations;

A handsome plant is *Anemone polyanthes* (fig. 47), and which has been generally distributed under the name *A. obtusiloba*; that differing however, from *A. polyanthes* in having oblong unwinged fruit, fewer-flowered scapes, and having purplish or golden instead of white flowers. *A. polyanthes* grows about a foot to 18 inches in height, with a wealth of

fine ornamental foliage not equalled by any we know. The flowers are produced in bunches of from six to eighteen, umbel fashion, on longish scapes. The flowers are rarely less than an inch in diameter, pure white, firm-textured, and lasting a considerable time in a cut state. It loves shade, plenty of moisture in rather a heavy but rich soil. The leaves are deciduous; the crown, though exposed, requiring no protection, as it is found at altitudes of from 10,000 to 12,000 feet above sea level from Kashmir to Sikkim, flowering during the early summer months.—FLORA.

THE ENGLISH SHOW TULIP.

THE foliage of the above, in most situations will, consequent on the unusually mild season, be 6 inches above the ground; the growers will, therefore, be able to judge as to the number of their bulbs which will produce blooms. I may state, for the information of amateurs who may have only just started upon the cultivation of Tulips, that all bulbs which produce blooms show double leaves, while those which will not produce blooms only bear a single leaf, and these are designated "Widows!"

The growth having thus far advanced it will be beneficial to the health of the plants that the surface of the soil between the rows be loosened; to accomplish this, without injury to the foliage, a specially made fork should be used with only two prongs, 4 inches long and 2 inches apart, the former being bent at right angles with the handle, so that standing on one side of the bed and striking the prongs into the soil about half way across the bed, then quietly drawing the fork towards the side the soil will be thoroughly loosened. As soon as the whole of the rows have been gone through on one side the other side is proceeded with in a similar manner.

Nothing further need be done to the bed or plants, except protecting them from cats or dogs (which can easily be done by placing wire netting, 18 inches high, all round the bed) until the blooms begin showing their colour and markings. At this period an awning, consisting of calico, should be placed over the bed so as to reach within 18 inches of the ground on each side. On all occasions it is most essential for the purpose of insuring brightness of colour that as much air as possible be given to the bed; this can be arranged by only keeping one side of the cover down during the daytime and fine weather. The side to be kept covered is the one during which the sun shines upon, so that it is necessary to watch the sun, and attend to the covering accordingly. In all cases during rain the covers must be down on both sides, and likewise during the night.

The bed should never be watered whilst the bloom is on, or the moisture rising from soil will cause the colouring of the blooms to become dull or washy. A good watering after the bloom is over, and the covers are removed, will tend to strengthen the growth of the new bulbs.—JAMES THURSTAN, *The Green, Cannock*.

MODERN GRAPE GROWING—ESTIMATE OF VARIETIES.

(Continued from page 166.)

OF the varieties already referred to four stand out prominently as being of the first quality, and at the same time in general cultivation. These are Madresfield Court, Black Hamburgh, Muscat of Alexandria, and Gros Colman. Duke of Buccleuch is also of the best quality, but is not in general cultivation and is not likely to be. Next comes a variety which, although not so popular for market purposes as it once was, having been pushed aside by the more showy and easier-cultivated Gros Colman, yet is indispensable in all large private establishments where Grapes are wanted through every month of the year, owing to its being the best late-keeping variety in existence. I refer to Lady Downe's Seedling. Its greatest drawback is in the time it takes to thin, one bunch occupying an expert probably ten times as long as a bunch of Gros Colman. But I have seen Lady Downe's good and plump in the month of June, and certainly during April and the early part of May it is of better flavour and sweeter than forced Hamburgs, while the cost of producing it is very much less.

The best house of Lady Downe's I ever saw was grown by my late friend Mr. Wildsmith at Heckfield. The time referred to was before they were made to stand on their heads. I had not the opportunity of seeing them after that, but was told they did equally well. For those readers who may not know the circumstances I may mention that the Vines having grown up one side of the house and down the other, their ends were fastened down to a prepared border, where they took root and became rejuvenised. For a while the roots remained at each end, but after a time some of the Vines, if not all of them, were severed from the ground at their thickest end, and they went on feeding and luxuriating backwards. The best two bunches of Lady Downe's I have seen were grown by myself and exhibited at Shrewsbury some eight or nine years ago, the largest of the two weighing $3\frac{1}{4}$ lbs. and measured 16 inches in length.

Gros Maroc has had its merits much discussed, and several growers have discarded it. Though not possessing all the good qualities some of its advocates claimed for it, it nevertheless is a very useful and beautiful Grape of easy cultivation. It colours much earlier than Gros Colman, and as there is a constant demand for large showy berries it must be grown to meet that demand. Its flavour during summer and early

autumn is not all that could be desired, but when November comes it is quite equal to Alicante, and much more showy. I have never tested its keeping qualities after January, but at the end of that month it had all the appearance of keeping as well as Gros Colman. It takes a hard rub to remove its bloom, and as its skin is thick it ought to be a good traveller. Gros Colman, on the other hand, by the time it has been sent to London and re-distributed to the provincial towns is generally as innocent of bloom as a scraped Carrot.

Alicante is a variety of easy culture, and will do with either greenhouse or stove temperatures. It is popular as a market Grape, travels and keeps well, carries a good bloom, and is altogether of handsome appearance. Mrs. Pince is of very good flavour, but its berries are not sufficiently large to suit the present taste, and it is a very rare thing to see it black; in fact, I have only once seen it carry the desired colour, and that was in 1868, when some grafts I had worked on White Tokay at Mr. Meredith's vineyard produced small bunches the same season, and I remember sending a sample to the "Gardeners' Chronicle," and obtaining a favourable comment in answers to correspondents.

Muscat Hamburgh is not of good constitution, is a bad setter, and we have the authority of Mr. Barron for saying it "does not keep long in good condition after becoming ripe." Altogether I consider it inferior to Madresfield Court. The only other variety I shall mention is Alnwick Seedling, and the only recommendation I shall give it is that it will colour well anywhere, the comparatively close atmosphere of the Muscat house suiting it perfectly, and it is the only Grape that will become really black under such conditions.—WM. TAYLOR.

(To be continued.)

ROYAL HORTICULTURAL SOCIETY.

MARCH 10TH.

SCIENTIFIC COMMITTEE.—Present: R. McLachlan, Esq., in the chair, and four other members.

The minutes of the last meeting were read and confirmed.

A further specimen of a diseased trunk of a Peach tree was sent from Chiswick. The bark was covered with exudations of gum, and spotted all over with the expelled excreta of a small caterpillar, which was found burrowing under the bark, and penetrating only a very short distance into the wood. The insect was found to be the larva of *Semasia Woberana*, the Apple or Pear tree Bark Moth. It was suggested that a plaster of clay mixed with paraffin, and applied to the trunk of the trees, might prove a remedy, or rather, a prevention. As the insect never penetrates to any great depth, it was thought that the trees would survive many years, even when seriously affected.

Specimens of Carnations sent from M. Peters, Givan's Grove, Leatherhead, were found to be affected with a fungoid disease attacking the main stem. They were referred to Dr. Masters for identification of the fungus, but it was not thought that any practical remedy could be suggested other than burning the affected plants and starting fresh ones on fresh soil.

Mrs. Miller of Winestead Rectory, Hull, sent blossoms of Crocus and Hellebores for identification. Mr. Veitch offered to endeavour to do this.

M. Godefroy Lebeuf of Paris exhibited some sprays of metallised *Odontoglossum crispum* with foliage of Ivy and Ewonymus. They were beautifully executed, the natural form of the flowers being admirably preserved, and the venation of the leaves perfectly distinct.

PROPAGATION OF THE DAHLIA.

AS an amateur grower of Dahlias I should be very glad if any of your correspondents would explain a difficulty which I experience in preserving my plants from year to year. The system I adopt is to store the old roots in a dry place safe from frost, covering them over with ashes or sand. In the early spring I put them under the stage of the greenhouse, covered or nearly so with earth. As soon as they produce shoots I cut them out with a bit of the old stalk and a small piece of the tuber, and pot them in small pots. This plan answers well; the plants grow, and most of them make fine tubers for another year.

Each year I have to get about twenty-four fresh plants from my florist's, some being new and expensive varieties; and although these fresh plants thrive and flower in every way I could wish, very few of them form tuberous roots, and consequently they have to be renewed each year. But my plants, propagated as above, very seldom miss doing so.

These remarks apply only to Show and Fancy, and not to Cactus varieties. If every grower has the same difficulty he must lose a great many varieties each year. Then how is the stock kept up? It appears to me that the reason the plants do not tuber may be that they are grown from cuttings and not from the old stalk and bulb.

Whilst I am on the subject of Dahlias I may mention another thing, which is, that if ever I get a plant which does not open its flowers well with good centres I invariably find the new plants from it are like their parent, so that all such should be destroyed; but I fear some florists do not destroy them. I should also like to know whether the new white Cactus, "Mrs. A. Peart," has naturally a bad centre, or whether it is only my individual plants which do so, as they have disappointed me.—THOMAS FENDERED.



MR. EDWIN MOLYNEUX.

I WAS very pleased to see the excellent portrait of Mr. Molyneux in the Journal of March 5th, and I desire to join in the tribute of praise to this excellent gardener, and also to thank him for the good work he is so often doing through your valuable pages, especially of late in arranging the interesting lists of Chrysanthemums. It has been my privilege and good fortune to meet him on many occasions, and I owe very much to his kindly advice and information on matters horticultural, which for the asking no gardener is more ready, and few more able to impart. I am sure those growers who did battle with him in days gone by at Kingston and elsewhere will endorse my opinion that if he were to expend the same energy and skill in Chrysanthemum competition to-day, we should have a very difficult task indeed to beat him. May he never be tempted to compete and overthrow us is the wish of one who has learnt much, and hopes to learn still more from so able an exponent of the craft which he so conspicuously adorns.—W. H. LEES.

NATIONAL CHRYSANTHEMUM SOCIETY.

A LARGELY attended meeting of the General Committee of this Society was held on Monday evening last at Anderton's Hotel, Fleet Street, Mr. B. Wynne presiding. After the minutes of the previous meeting had been read and confirmed, correspondence was read, comprising a letter from Sir Edwin Saunders, acknowledging his election as President of the Society, and one from Mr. Harry J. Veitch, thanking the Committee for placing him on the list of Vice-Presidents. According to rule one-third of the Floral Committee retire annually, but are eligible for re-election. There were nine candidates, and of these the following gentlemen were successful:—Mr. George Gordon, Mr. H. J. Jones, Mr. C. Gibson, Mr. Rowbottom, Mr. Norman Davis, and Mr. T. Lyne. The voting for this election being by ballot, Messrs. A. Taylor and W. B. Beckett were nominated as scrutineers.

The Chairman presented the report of the Jubilee Sub-Committee, which dealt mainly with the institution of some important classes to be open for competition at the Society's great show in November next, at which special prizes to a much larger amount in value than has ever been the case before will be offered. The Jubilee Fund is still somewhat under the amount required, and subscriptions from anyone interested in the Society's work and the success of its unprecedented effort to celebrate the fiftieth year of its foundation are requested to be forwarded to the Secretary at an early date. The Jubilee Banquet will be held at the Hotel Métropole on the first night of the Show, and a Conference will take place on the evening of the third day. The time, place and subject will be settled as soon as practicable.

The members of the Catalogue Committee, Messrs. H. J. Jones, W. H. Lees, Crane, Taylor, and Harman Payne, were re-elected. Four Societies were admitted in affiliation, and nine new members added to the roll.

SHEFFIELD CHRYSANTHEMUM SOCIETY.

THE monthly meeting of this Society was held at the Museum, Orchard Street, on the 11th inst., when a good number of members attended. The members' exhibits for the month were—Professionals, best pot plant in bloom; and, for amateurs, three cut blooms. In the former class the awards were:—First, Mr. G. Smith; second, Mr. C. Scott; and third, Mr. R. Agar, each exhibit being a well flowered specimen of *Dendrobium nobile*. In the latter class the honours were:—First, Mr. M. H. Willford; second, Mr. Percy Scott; and third, Mr. J. Beighton, their exhibits consisting of Orchids, Camellias, *Imantophyllums*, and *Richardias*. The unsuccessful exhibitors in the amateur class staged some excellent blooms.

After the usual routine business had been completed and a number of new members admitted to the Society, a discussion upon the new varieties of the Chrysanthemum followed.

Mr. H. Broomhead, F.R.H.S., was to have opened, but owing to indisposition did not attend, much to the disappointment of the members present. It being his custom to try many new varieties yearly the meeting was anxious to hear his opinion on the more recent introductions. Mr. Frank Hardy described at some length a number of new varieties that he had cultivated, and amongst others referred to Rose Owen, Major Bonnaffon, Mrs. R. C. Kingston, Bonny Dundee, Brookland Gem, D. B. Crane, Globe d'Or, John Agate, John Fulford, Lucy Kendal, Mr. C. H. Curtis, Mrs. John Gardner, and Robt. Petfield as new incurred varieties.

As representing the Japanese section, he referred to Edith Tabor, Lago Maggiore, Mrs. Geo. West, Mrs. J. Sbrimpton, Mrs. H. Weeks, Oceana, Phœbus, and William Slogrove. Mr. Chas. Scott also gave the experience he had gained in respect to new varieties, and also information of great value to the amateurs present as to the best time for inserting cuttings and for stopping older varieties. Messrs. W. Willgoose, B. Glossop, and others joined in the discussion, which will no doubt

be very beneficial to all growers of the Chrysanthemum who were present at the meeting. A vote of thanks to the Chairman (Mr. John Haigh) concluded the business of the evening.

THE CHRYSANTHEMUM AUDIT AND THE N.C.S. YEAR BOOK.

WHEN this publication was issued about twelve months ago, various correspondents expressed their opinion respecting the same. One chapter which was more discussed than another being perhaps that of "Japanese Novelties for 1895," a list of fifty-four varieties being given. Compared with the recent audit this particular chapter does not show to any great advantage. Out of the fifty-four varieties thirty-seven are not to be found in the first fifty of the audit, but eleven varieties not even mentioned in this particular chapter are well up in the audit of fifty. It is said the N.C.S. has decided not to publish an annual for 1896.—A. B. C.

YOUR correspondent "T. V. D." (page 213) would perhaps lend more weight to his opinion anent Chrysanthemums and the lists you have recently given us in such an interesting manner, if he did not hide his light under the above initials.

The variety Mephisto, which he says has never been grown in this country, was offered by at least one of the leading London trade growers last year, whose catalogue I have in hand, and we exhibited a bloom at three shows, N.C.S., Hull, and Edinburgh, as can be proved by reference to the Journal reports.

It is not my business to take up the cudgels on behalf of any particular firm, but why anyone who wins a gold medal should not make full use of the honour is hard to understand, especially in so far as I have observed, no undue or "misleading" statement has appeared in the advertisement alluded to. If "T. V. D." were to interest himself more carefully in these matters before rushing into print with his fancied grievances against the N.C.S., he would find that an allowance is made to exhibitors of plants and groups to defray the expenses of cartage, but it is hardly likely that the Society can undertake the whole cost of transit from any part of the country, even supposing (which is most unlikely) they were to get an entry in such classes from a distance.

One little point more is that a gold medal was *not* awarded the group in question, the President's prize—a drawing-room clock—was the first award.—W. H. LEES.

THE N.C.S. JUBILEE SCHEDULE.

ON page 189 "Fairplay" calls attention to the class for groups at the coming Jubilee celebration of the N.C.S. Of course we shall be told that the object of the competition is to encourage correct grouping of Chrysanthemums. But I would ask, will not the judges in making the awards take into consideration the quality of the foliage used? Horticultural societies generally offer prizes with the object of encouraging good grouping of greenhouse and stove plants, and yet what would be said if the rules allowed plants not grown by the exhibitor to be used? How often do we hear exhibitors in speaking of their more successful competitors say, "Yes, he has beaten me by having a few choice bits of Orchids," &c.? The class as now framed by the N.C.S. practically confines the competition to the trade, and of course the grower will necessarily hail from the neighbourhood of London.

It would not pay a gardener to hire or purchase a collection of choice plants, but a trade grower has a chance to recoup himself by the announcement that he had won the prize by the great superiority of his Chrysanthemums. If "Fairplay" will turn to class 45 in last season's schedule he will find a class confined to nurserymen. It is particularly stated that "quality of bloom will be the first consideration in determining the awards," and then the footnote says, "the flowers need not be grown by the exhibitors." The winner of the first prize in this class is now enabled to say his Chrysanthemums won the gold medal. Why this loophole for the trade grower and not for the private one?—NEMO.

THE CHRYSANTHEMUM ELECTION.

"D." evidently does not know of the existing conditions of the circular invitation sent to the electors, or the note (page 189) would not have been necessary regarding the position occupied by Madame Carnot in the list of new varieties. The peculiar (to "D.") position of this variety is easily explained. Obviously, the twenty-one electors who voted for it misunderstood the terms of the circular relating to the new varieties. The conditions run thus:—"Twelve best and most promising Japanese Chrysanthemums, which have been seen for the first time in the year 1895." Madame Carnot ought not to have been included in any return for new varieties, as it was exhibited in the year previous, and therefore not strictly eligible. I am unable to answer the question put by "D." as to whether the electors have grown the varieties named, or whether they have seen them only at shows. "D." must know that many in the list are as yet in the hands of raisers and vendors only, and in this way have been exhibited by them only. Referring to Mons. Chenon de Leché, I am not aware that more than two blooms were seen during the whole of last season. Both were exhibited by Mr. Wells—one at the Aquarium, and the other at Hull.

I fear but a moderate list of new varieties would be published if electors were compelled to include only those they had grown. Why nineteen only give Edith Tabor a place in the fifty was, I presume, owing to previous experience with other apparently sterling novelties.

"D." names W. Slogrove and La Moucherotte as having been seen in various directions. I was under the impression that both had been seen seldom, and only in the hands of one person each.—E. MOLYNEUX.

I HAVE been much interested, as I am sure have many other readers, in watching the rise and fall of the different varieties year by year, and we are deeply indebted to Mr. Molyneux for the vast amount of trouble it must have cost him, and the friendly criticism, if such it is, which follows is of equal value.

I am not a bit surprised to find the discussion now being ventilated in the pages of the Journal, especially on the twelve new kinds. Unfortunately, I have not by me the circular issued by Mr. Molyneux, but trusting to memory I believe it was worded, "Twelve new Japanese, seen for the first time in 1895." Myself, like many others, would not think of excluding such kinds as Madame Carnot and Palanza, which I consider should find their place in the best fifty and twenty-four, hence their being placed so low on the list. I understood this list of twelve to be only quite new ones, and to be a help and guide to growers living a long distance from London, who have no opportunity of seeing and judging of the merits of many new forms introduced each year. I am entirely at one with Mr. Briscoe Ironside, that only a few specialist private growers, whose opinion can be relied on, should be asked to vote on this list, and who have the opportunity of inspecting the kinds as sent up to the central meetings of the R.H.S. and N.C.S., as I think this would very much simplify matters and greatly assist intending purchasers.

Even then, I am aware, some of the varieties will not come up to expectation the first year, as in the case of Duchess of York, mentioned by Mr. Godfrey (on page 214), but I see no reason why another season this variety should not be again seen in perfection. I saw it at three different dates, both early and late, in 1894, and each time the blooms were of great merit; indeed, as then shown, I consider it one of the very best Japanese we have. Surely, then, we may reasonably expect to see this shown well again yet?—E. BECKETT, *Elstree*.

ENGLISH CHRYSANTHEMUMS.

(Concluded from page 241.)

CONTINUING my remarks of this subject I will now turn to the incurved section, in which English raisers have much to be proud in the results attained. In no country can this section be seen in such perfection as at the leading shows in the United Kingdom. As long ago as 1847 Mr. J. Salter succeeded in raising that excellent variety Queen of England, from which no less than nine others almost equal in point of merit have sprung. Two of the best are Empress of India and Lord Alcester, the former introduced by Messrs. Downie, Laird, & Laing in 1861, and the latter by Mr. Freemantle, a Somersetshire policeman, in 1882. This variety is regarded as an ideal incurved bloom. Princess of Wales is the originator of what has become a numerous family. It was raised in 1864, and for beauty of outline cannot be excelled. To Pethers belongs the honour of raising Princess Teck, from which we have obtained no less than five distinct and meritorious forms.

Many more instances might be cited did space admit, but mention should be made of varieties introduced quite recently. Mr. Jones added considerably to his fame as a raiser by the advent of C. H. Curtis, orange yellow in colour, and which for symmetry and "build" is difficult to surpass, while Mr. Owen gave us Baron Hirsch, Lord Rosebery, Bonnie Dundee, and Robert Petfield. The latter was sent out by him in 1893, and represents a desirable type which in time will no doubt give us others of a like character, but of a different colour.

The reflexed or imbricated section is remarkable for the great percentage of English productions. In 1845 John Salter gave us King of Crimson, which even at the present time is not excelled in point of colour by any. Callington, is a great favourite owing to the intensity of its colour, while Elsie, introduced by Cannell in 1886, is an acquisition to the decorative class. The Anemone division was for a long time represented by Fleur de Marie, which owes its origin to John Salter in 1846, but this has been largely supplemented of late by French raised varieties. The Japanese section of Anemone-flowered sorts has been largely added to by French raisers. Latterly, though, English varieties have become more numerous. Mr. Owen having been responsible for several, amongst which are Sir W. Raleigh, W. W. Astor, Enterprise, and John Bunyan.

In the Pompon and Anemone Pompon sections honours appear to be somewhat divided. Messrs Owen, Boyce, and Cannell have paid special attention to these sections, the result being many meritorious additions. In the single-flowered section the names are almost exclusively of English manufacture, Messrs. Agate, Cannell, Jones, Symonds, and Teesdale being the most prominent as raisers of this increasingly popular section. Space forbids, however, a recapitulation of names which, to do the section justice, would require a special article. At some future period perhaps the Editor, in his wish to cater for all classes, might entertain such a suggestion.—E. MOLYNEUX.

LAST WEEK'S "JOURNAL OF HORTICULTURE."

WHAT a grand number it is! Such, I think, must have been the verdict of the thousands who read, nay, studied its pages. How bulky, how weighty, thought I, as I took it up for a few spare moments in preference to my morning paper; those few moments convinced me that its weight, avoirdupois, gave some indication of the weighty literary matter within. An evening's quiet study confirmed my first impression,

for I find in the many pages of the "spring number" of the Journal much to interest, abundant food for thought, as well as words pregnant with truths for gardeners old and young.

Under the heading of the "Horticultural Outlook" we find both words of comfort and wisdom, from "A Worker" who has evidently worked in more ways than one, to show the way, and to stir others to bring out the latent wealth of Britain's soil. He at least firmly believes that the commerce of horticulture, if conducted on right lines, must eventually hold its own against all comers. Surely we have made wondrous strides toward the attainment of that object during the last few years, and who can measure the amount of good that is attainable in the future.

"Episodes in Vine Growing" is, indeed, a suitable heading to a record of daring feats and interesting facts in connection with Vine culture. The bold experiment of lifting Vines in June and taking a crop from them the following season I have also seen successfully carried out, even in a more daring fashion than that recorded. It happened in this wise. Some years ago I had charge of a range of fruit houses, which included a vinery in which the Vines had been forced early for twenty years. It was decided to replant this house as soon as the Vines were cleared of their crop. The last bunch was cut toward the end of June, and many of the Vines were destroyed. I was, however, determined to try an experiment with a few. Two of most promising appearance were selected; these had the shoots shortened back to four or five leaves, and were carefully lifted, plenty of fibrous roots being fortunately found around the stems. With care these were transferred—with a good amount of soil attached—to wide shallow boxes, which were placed on the north side of a Yew hedge. Here the leaves and stems of the Vines were syringed twice or thrice daily, by which means every leaf was preserved till it ripened and fell in a natural way. Some time during the following October (I have no record of the exact date) boxes and Vines were removed to a span-roofed forcing house, and being placed upon a bed, the boxes were broken up and removed piecemeal, and additional soil added. The whole affair was regarded quite in the light of an experiment, and no special treatment in regard to temperature was given, but the ordinary temperature of a forcing house was maintained from start to finish. The result was a good crop of Grapes, some of which were ripe in March. The bunches were small, but in every other respect satisfactory, and greatly surprised us "Bothyites," who took great interest in the experiment.

From ripe Grapes to "Gentle Spring" is not a far call; in fact the one reminds us of the other, and the happily vivid picture of the joyous delights and freshness of spring from the inspiring pen of "the Missus" gives birth to the hope that her bright cheering words will often adorn the pages of "our Journal."

Now for a few words about the much-looked-for supplement, which we had previously learned would contain a description of the famous garden of a great statesman. How comprehensive, how instructive is that description, abounding, as it does, in pithy pleasantries, vivid and realistic touches from a master's pen. Truly the statesman, his gardens, and the scribe seem to have much in common, over that which is best in their own particular line. Long may the gentle art of gardening hold sway over the master minds who mould the destinies of nations.

"Notes on Malmaison Carnations," by Mr. M. F. Barnes, should be read over and over again by all who wish to excel in the culture of these choice favourites. It was my good fortune to closely inspect the Malmaisons at Eaton Hall last summer, and for vigour, freedom from disease, and superb health, the Eaton plants will be very hard to beat.

The reminiscence of Mr. Owen Thomas is altogether refreshing, and ought to be encouraging to gardening youths of the present day. Who will say after that revelation that the *ex-divant* fisher, pot crocker, and flue sweeper has not won his high position of royal gardener by work and by merit? It is a case of ardent love for gardening, impelling to earnest effort and persevering diligence, and of these proving, as in other cases, the precursors to success. All cannot be royal gardeners, but all can strive to fit themselves for such a position when (may it be long first) a "vacancy occurs."

Our old friend, Mr. W. Iggulden, was treating of a congenial theme when penning his article on "Open Air Tomatoes," for I know of no one who better understands the capabilities of Tomatoes under every conceivable form of culture than does the author of a sterling work on this popular vegetable—fruit—who at one time was also a dapper showman. The same shrewd writer comes out with a vigorous review of "Three Useful Primers." In treating of the one on "Vegetable Culture," by Mr. A. Dean, Mr. Iggulden makes use of a trite remark. He writes: "Mr. A. Dean is well known to the horticultural world, more particularly as a critic of no mean order, and we now have good opportunities of noting whether he is not stronger in *destroying* than in *constructing*." 'Tis a general weakness, my friend; so much easier to criticise the work of others than to improve upon it oneself.

Readers of Rose lore may not be expected to love the floriferous Hybrid Teas the less, but rather more, after a perusal of "H. D.'s"

deserved encomium on them; while if growers of Roses in pots fail in keeping their plants healthy and clean it will not be the fault of the obvious practical writer "Rosarian." By the way, who is it who does not know the old Crested Moss Rose? It is the most pronounced in bearded characteristics of any in the section, and grows well on the Briar. Let him order plants, and he will learn to love this markedly distinct and enjoyable garden Rose.

Words of welcome and encouragement come from the pen of a "great" Chrysanthemum man, Mr. E. Molyneux. He shows of what sterling merit English-raised varieties in the incurved and small-flowered sections are. Let us still forge ahead till we beat the Continental raisers in the Japanese sections also.

It seems somewhat out of place that I should at this point strike a discordant note, but connection forces me to do so. Table decorations are ably touched upon by "O. M.," who gives many useful hints upon a matter of great importance to gardeners. It is, therefore, with regret that I see he advocates the use of "crinkled paper" of various colours as a covering for pots. Away with them, "O. M.," for the future. They savour too much of the city restaurant, and give an artificial air to what should as far as possible exhibit only natural beauty. If you have no vases or bowls to place your pots in cover them with hanks of moss, or hind fresh moss around them with thin wire. The latter can easily be hid by twisting the moss over it.

These jerky notes have gone beyond their intended length, but they must not close without paying a humble tribute to the intellectual gifts and persistent energy of Mr. G. Abbey. His able articles have appeared in the Journal constantly since my earliest recollections of it, and he is still doing an incalculable amount of good by his exhaustive treatment of "Garden Pests and Antidotes," "Fungoid Diseases and their Remedies." Let us all join in the hope that he will be spared to give light on these subjects for many years to come, for I firmly believe that few will be able to master the deep mysteries attending the classification of such entomological puzzles as Troglyphidæ, Phytomyidæ, and a host of others still more perplexing. I for one can never hope to do so, for I have the greatest possible difficulty in even writing them. I will therefore stop before I get further confused, for my eyes even now grow dim by looking at, and thinking of, Mr. Abbey's formidable array.—ON-LOOKER.

[We have other commentaries of a pleasing nature, but space cannot be found for them this week. In reference to the paragraph on the "reminiscence" of Mr. Owen Thomas, we may perhaps say that the writer of this series of notes has by similar devotion and self-effort won his way into a position which many might envy as gardener to a great historic family.]

LUCULIA GRATISSIMA.

AMONGST the numerous winter-flowering greenhouse plants I do not know one to excel *Luculia gratissima*. The trusses usually range from 8 to 10 inches in diameter, are very fragrant, and as they are produced during midwinter are much appreciated. No cultivator with the necessary space at command should be without this plant.

But why is it so often seen in an unsatisfactory condition? When given the proper treatment it makes rapid growth, and will reward the cultivator with abundance of flowers at a dull time of the year, when greenhouse flowers are scarce and often difficult to obtain. This plant requires cool treatment in all its stages of growth after the cutting is rooted. If grown in heat for any length of time the plant will soon degenerate, and from the remarks often made by visitors I am inclined to think that many people attempt to grow it under stove treatment.

Having been successful a few remarks as to its culture may be of interest at this season, as now is a good time to make a start. *Luculias* should always be planted out, and the back wall of a cool greenhouse, from which the frost is excluded, suits it admirably. Four years ago I placed a small plant in a similar position, planted out in a small border about 12 feet from the glass. The soil was composed of equal parts peat and loam, with a small portion of coarse sand, charcoal, and broken bricks to keep it porous, as copious supplies of water are required during the growing season. This plant has grown freely, and has now reached to within a few inches of the top of the wall. It commences to bloom in September, and continues well into the new year. It flowers at the point of each shoot, from the base of which other growths start whilst the truss is expanding, and these will be in full beauty at Christmas, thus prolonging the season for a considerable period.

Propagation can be effected from the shoots of half-ripened wood, which will commence to grow directly the old flower trusses have been removed in the spring. These should be taken off with a heel, and inserted singly in small 2-inch pots, in a mixture of peat and sand. Plunge the small pots in the propagating frame, or under a bell-glass, where they should be kept quite close and carefully shaded, as it is sometimes difficult to get them to root freely owing to the wood not being at the right degree of ripeness.

Propagation may also be successfully carried out by layers, which can be depended on to give good plants in less time than from cuttings. When only a few plants are required this plan is recommended. Take a small pot and fill it with soil as advised for cuttings, secure it to the plant, so that the point of the shoot intended to be operated on may be

placed in the pot without breaking it, then with an upward cut sever the shoot half through about 6 inches from the point, peg firmly into the soil, keep it well syringed and shaded from the bright sun, and in six or eight weeks it should be well rooted. It must then be taken off, and placed in a close frame for a few days before being potted.

In preparing for potting the pots should be carefully drained, as the plants are very impatient of water in the early stages of growth. The compost suitable at this period is peat and loam in equal parts, and a little coarse sand. Pot moderately firm, and return them to the frame for a few days. They ought afterwards to be hardened and given cool greenhouse treatment, shading them from bright sunshine, and syringing them on bright days. The plants should be transferred to larger pots as required, eventually planting them out in their permanent quarters as recommended above. They do not require a large border; one about 3 feet square is of ample size for a large plant.

Insect pests are sometimes troublesome, chiefly green fly and thrips. If not convenient to fumigate these may be destroyed by the usual means; for the former a little tobacco powder dusted on the points, to be afterwards syringed off, and for the latter sponging with some approved insecticide, will usually prove effectual.—G. S.

APPLE GOODWOOD PIPPIN.

THE illustration (fig. 48) accurately portrays the above-named Apple, which was exhibited last week by Mr. R. Parker, gardener to His

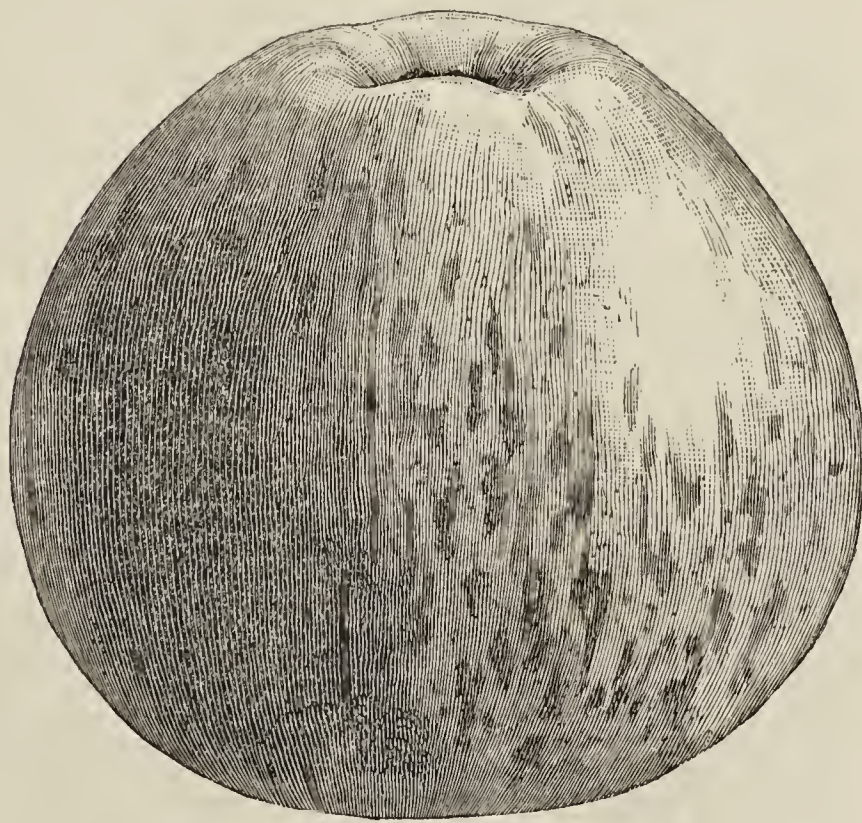


FIG. 48.—APPLE GOODWOOD PIPPIN.

Grace the Duke of Richmond and Gordon, Goodwood, and unanimously granted an award of merit by the Fruit Committee of the Royal Horticultural Society. It has been grown under the local name of "Lincolnshire Reinette," but in a list of 147 Reinettes the distinctive appellation does not appear. It is somewhat of a custom in some parts of Lincolnshire to call unknown Apples "Reinettes," and this may have come from that county. It possesses some of the characters of the Blenheim Pippin, but is quite distinct from that old favourite. The following is the description of Goodwood Pippin:—Fruit above medium size, $3\frac{1}{2}$ wide and 3 inches high; roundish, narrowing slightly to the apex; in shape smooth and symmetrical; colour yellow, occasionally splashed with red on the shaded side, and studded with numerous very small russet dots; sun side flushed with red and marked with several broken streaks of crimson; eye large and partially open, set in a wide, shallow, and very slightly puckered basin; stalk slender, short, within the level of the fruit, deeply inserted in a russet-lined cavity, some of the fruits having a fleshy protuberance next the stalk; flesh yellowish white, tender, yet crisp, and pleasantly flavoured. A good Apple and suitable either for dessert or culinary purposes. The tree is said to be a good grower and free bearer.

Though this Apple has been named "Goodwood Pippin," we are inclined to think that Goodwood Foundling would have been more appropriate. The term Pippin means a seedling, and the name given suggests that this Apple is a seedling raised at Goodwood. Its local appellation implies it was not, but introduced and found there.

THE FLORISTS' TULIP.

[By JAS. W. BENTLEY, Hon. Secretary of the Royal National Tulip Society.]

DESCRIPTIVE CATALOGUE. (Continued from page 169.)

KATE CONNOR (Slater).—Rose. Shape longish; base pure. Once famous as a feathered flower, the feathering being brilliant scarlet in colour, and beautifully pencilled on a good white ground. Unfortunately the fine feathered strain is now a memory only. As a breeder it is still grown in the hope that some time or other a break equal to the "Sweet Kate" of former days may occur. Singularly enough the breeder is dull in colour, and when flamed it is of no value, having distinct traces of hyblœmen in the beam. A shy growing variety easily injured by frost. First broken in 1844, and memorable on account of the controversy between Messrs. Slater and Lighthody, both claiming to have originated it.

KING (Delaforce).—Bizarre. Shape long; base pure. A well marked flamed bizarre; the colours, however, lack brilliancy, and there is an unpleasant greenish tinge at the base of the beam. Distributed in 1853, and now gone out of cultivation.

KING (Holmes).—Byblœmen. Shape rather long; base pure. In great favour in the South for more than half a century, and much used by the early raisers as a parent. It has a beautiful white ground, and a beam of a pure light purple colour, but having no feathering on the edges of the petals is useless as an exhibition flower. Although considerably over 100 years old it is still grown.

KING (Parker).—Byblœmen. Shape good; base very yellow when the flower first opens, and is bleached with difficulty. A large, light, lavender-coloured breeder, which, when the base can be got clear, is a fine exhibition flower. When broken it is generally feathered, but is not of much value, the markings being "grizzled." A shy grower, and consequently scarce.

KING (Strong).—Bizarre. Shape fair; base generally impure, being stained under the base of the filaments. A favourite old-time flower, flamed with rich reddish brown on a good yellow ground, which is, however, rather pale outside the flower. Broken by Mr. Strong of Hammersmith in the early part of this century from a breeder raised by a Rev. Mr. Wood of City Road, London, who died about 1805. It is not grown now, being superseded by Storer's varieties.

KING (Willison).—Bizarre. Shape good; base pure. A feathered and also a flamed variety; the marking colour is brown on a good yellow ground. Raised, probably from Trafalgar, about fifty years ago, and not much grown, being quite overshadowed by the same raiser's Sir Joseph Paxton.

KING ALFRED (H. Goldham).—Byblœmen. Tall. Shape long; base pure. A well-marked flamed variety, very similar to Duchess of Sutherland (Walker) in colour; its shape, however, prevents its being classed as first rate. A seedling from Nelson x Chancellor.

KING OF THE UNIVERSE (Dymock).—Byblœmen. Shape good; base pure. In my opinion this is the finest feathered hyblœmen grown, the feathering being beautifully pencilled and rich purple in colour on a pure white ground. It is heavily feathered, not liable to be injured by frost, and is very constant. Certainly it has a tendency to go flamed with age, but by growing on all offsets to blooming size a succession of fine feathered flowers can be assured. When flamed it is beautifully marked and rich in colour, its sole drawback being a deficiency of base. A fairly good grower, raised by Mr. William Dymock of Stockport and certificated by the Tulip Society in 1888, it completely eclipses the famous southern varieties, such as Fanny Kemble, for which such fabulous prices were once paid.

KING ROBERT BRUCE (Lighthody).—Byblœmen. Tall. Shape good; base pure. A late blooming, rosy-purple feathered variety, much sought after forty years ago, but not now grown.

LA BELLE NANETTE (Dutch).—Rose. Dwarf. Shape long; base pure. A feathered variety, very much like, if not the same as, Heroine.

LA BELLE NARENE (Dutch).—Byblœmen. Dwarf. An obsolete, well marked, dark flamed variety, with a good white ground; base and filaments, however, impure.

LAC (Dutch).—Rose. Shape good; base pure. An obsolete variety, formerly very highly esteemed for its bright markings and purity. Introduced over 120 years ago, and being a shy grower was always scarce and high priced.

LACANTIQUE (Dutch).—Bizarre. Shape long, base impure. An obsolete well marked dark flamed variety, introduced over 100 years ago.

LADY CATHARINE GORDON (Lighthody).—Rose. Shape long; base generally streaked with yellow, and difficult to get pure. A correctly flamed variety, the markings of bright cherry-scarlet, being very refined. It is sometimes seen free from the yellow stains, and then, despite its shape and flimsiness of petal is a good exhibition flower. It was introduced about 1856, and is still grown. Syn., Princess Alice Maud.

LADY CLIFTON (Jackson).—Rose. Shape long; base pure, petals pointed. A well-marked feathered flower, highly esteemed forty years ago; as a flamed variety valueless, the base in that state being impure.

LADY CREWE (Sherwood).—Rose. Shape longish; base generally greasy, although occasionally pure. A famous feathered variety raised from Rose Vesta, in the early years of the present century, by Mr. Sherwood of Derby. First broken by Mr. Johnson of Mackworth about 1826, and figured in Sweet's "Florist's Guide" for 1830, it is notable as being the first English Rose Tulip that was a distinct improvement on

the Dutch varieties. It is still to be found in some collections. Syns., Lady Middleton, Mrs. Mundy.

LADY FRANKLIN (Gibbons).—Byblœmen. Shape good; base pure. A well-marked, dark-flamed variety with a good white ground. The petals, though of good substance, are rather narrow, and the flower soon quarters. This is one of the best of the once-famous Chellaston varieties, and, in my opinion, is identical with Sarah Ann and First Rate.

LADY GROSVENOR (Slater).—Rose. Shape good; base pure. Best as a breeder, which is pale dullish-rose in colour, with a characteristic white stripe up the centre of each petal. When broken it is sometimes good in the feathered state. It is still grown, but can now only be classed as second-rate.

LADY HARCOURT (Camp).—Byblœmen. Shape good; base pure. A dark-flamed variety, evidently a near relation of Fanny and Elizabeth Pegg. By some growers it has been supposed to be Fanny in a flamed state, but, in my opinion, it is distinct, and of no great value, the markings being generally "scratchy" and wanting in distinctness.

LADY LEICESTER (Gibbons).—Rose. Shape fair; base pure. A dark-flamed rose, first broken in 1841, and now obsolete. The same raiser's Lady Stanley was very like this variety.

LADY LILFORD (Crompton).—Rose. Shape good; base not strictly pure. A bright-coloured feathered, and also a flamed variety, very inconstant in its markings. As an old grower well says, "You must grow a field full to get a good one." Raised about fifty years ago, it was much used as a parent on account of its bright colour and good shape by seedling raisers.

LADY MAY (Hepworth).—Rose. Shape good; base pure. A beautiful pale rose coloured, late-blooming breeder with a fine base. It is a scarce, shy-growing variety, increases slowly, and of no value when broken.

LADY SEFTON (Martin).—Rose. Shape fair; base pure. A shy-growing, rather inconstant variety, best when flamed, but occasionally good feathered. Evidently a near relative of Annie McGregor, but different in colour, which is a beautiful carmine. Well worth growing, as it sometimes comes exquisitely marked, and its rich unusual shade of colour always tells well on the bed.

LADY WILTON (Martin).—Rose. Dwarf. Shape fair; base pure. A shy-growing feathered and also flamed variety, much like Heroine in colour. Its delicate constitution causes it to be seldom seen at exhibitions.

LA JOIE DE DAVEY (Davey).—Byblœmen. Shape good; base pure. An obsolete, delicately feathered, dark variety, broken and named by Mr. Davey of Chelsea in the early part of this century. Mr. Davey was offered £170 10s. for it, but refused it. As Mr. W. S. Gilbert has it, "such an opportunity will not occur again."

LANCASHIRE HERO (Buckley).—Byblœmen. Shape long; base impure. A constant, beautifully pencilled, dark-feathered variety, much esteemed before purity was considered essential. An old-time flower, still grown in some northern collections.

LA VANDIKKEN (Dutch).—Rose. Shape long; base pure. A shy growing, deep cherry coloured, well marked, flamed variety, with a good white ground. A slight bluish tinge at the base of the beam is its chief fault. Formerly much esteemed, but since the introduction of Martin's varieties has been almost entirely discarded.

LEA'S 1 AND 2 (Lea).—Bizarres. Shape good; bases pure. These two varieties are much alike, and only of value in the breeder state. They are small in size, and a peculiar yellow-draught in colour. Raised from Sir Joseph Paxton x Masterpiece, and decidedly inferior to either of their parents.

LEECH'S 1 (Leech).—Byblœmen. Shape good; base pure. Filaments often slightly stained, though sometimes clean. As a breeder it is lilac in colour, and occasionally useful for exhibition, but when broken is of little value.

LEECH'S 2 (Leech).—Byblœmen. Shape good; base and filaments generally slightly stained, although sometimes pure. As a breeder it is rich purple in colour, and when rectified is a fairly good flamed flower. This and the preceding variety were both raised from Headly's Adonis.

LEWALD (Dutch).—Byblœmen. Shape fair; base needs bleaching. An obsolete, shy growing feathered variety, introduced in 1823. The name is still to be found in some Dutch catalogues. Syns., Incomparable Surpassant, Reine du Monde, Ursina major.

LILAS GRAND VASE (Dutch).—Shape long; base pure. A feathered variety which, although not first-rate, is well worth growing, as it is fairly constant. The marking colour is a pleasant shade of purple on a good white ground, and the variety can be obtained at a moderate price from the Dutch growers.

LITTLE POLL (Slater).—Rose. Dwarf. Shape fair; base pure. A second-rate variety, only of value when feathered, in which state it is now rarely seen. As a flamed flower it is but poor, a nasty blue tinge at the base of the beam causes it to be little valued.

LITTLE ANNIE (Martin).—Rose. Dwarf. Shape good; base pure. A constant extremely shy-growing feathered variety. The marking colour is rich rose, exquisitely pencilled on a fine white ground. Unfortunately its constitution is so delicate that it rarely makes an offset, and is consequently very scarce. Syn., Barmaid.

LIZZIE (Dymock).—Rose. Dwarf. A deep cherry coloured feathered variety, very similar to, if not identical, with Alice. I can see no difference between the two kinds, but in fairness it ought to be mentioned that the raiser (who ought to know) says they are distinct.

CRYSTAL PALACE SPRING SHOW.

THE Crystal Palace Company opened its show season on Saturday last with an exhibition of spring flowers. Taken as a whole the quality of the exhibits was only fair, and with the exception of one or two of the principal classes the competition was not strong, as in some instances only one exhibit appeared. In the bulbous section Mr. Jas. Douglas was, as usual, the chief prizewinner, his exhibits being much superior to those of any other competitor. Cyclamens were largely represented, and the plants throughout showed unmistakeable signs of good culture, while the competition was fairly keen, the St. George's Nursery Company being the chief prizewinner.

Mr. Jas. Douglas, gardener to Mrs. Whitbourn, Great Gearies, Ilford, occupied the premier position with thirty-six Hyacinths in pots, his plants being exceedingly well grown, and of pleasing variety in colour. Mr. Jas. Gibson, gardener to E. H. Watts, Esq., Chiswick, was second with an exhibit of fair quality, and the third place was taken by Messrs. Jas. Winter & Son, West Norwood. For thirty-six Tulips in pots Mr. Jas. Douglas was again to the front with fine examples, and amongst others were noticed good blooms of Proserpine, Joost Van Vondel, Vermilion Brilliant, Keizers Kroon, and Fabiola. As in the former class, the second prize was won by Mr. Jas. Gibson, the third place being taken by Mr. W. Howe, gardener to H. Tate, Esq., Streatham Common.

For twenty-four Polyanthus Narcissus the premier position was taken by Mr. Jas. Douglas, who staged sturdy well-grown plants. Mr. W. Howe also exhibited good plants, which were awarded the second prize, and Mr. Jas. Gibson followed with the third. Only two exhibits were shown in the class for twenty-four Narcissus (Daffodil section). Mr. W. Howe was first with well-flowered plants, which included Golden Spur, Horsefieldi, Ard Righ, and others, the second place being taken by Mr. James Gibson. Cyclamens were undoubtedly the best feature in the show, and in the class for thirty-six the St. George's Nursery Company, Hanwell, claimed the highest award with an exhibit the characteristics of which were abundance of flowers on sturdy footstalks, together with substantial, well-marked foliage. Mr. J. G. Mowbray, gardener to Major the Hon. H. C. Legge, Slough, was second with an exhibit of little less merit, and Messrs. Thos. Pestrige, Brentford, and Thos. Walker, Hounslow, equal thirds. Only two exhibits appeared in the class for twelve Amaryllis, the first prize going to Mr. James Douglas for a collection of seedlings, and the second to Mr. W. Howe.

Mr. J. R. Box, West Wickham, was first with twelve Cinerarias, Mr. W. Leakey, gardener to J. M. Douglas, Esq., Upper Norwood, following with the second. For twenty-four Chinese Primulas Mr. Jas. Bateman, gardener to Mrs. King, was first with well-grown examples, and Mr. J. G. Mowbray a fair second. Mr. T. Jannoch was the only exhibitor of Lily of the Valley, and was awarded first prize. Mr. Jas. Wyatt, gardener to J. Perry, Esq., Caterham Valley, was awarded second prize for nine Mignonette plants, he being the only exhibitor. Mr. Robert Wells, Sydenham, was the only exhibitor of twenty-four greenhouse Azaleas, and was awarded first prize.

Mr. J. Schumacher, gardener to M. Jacoby, Esq., Gipsy Hill, was first with twelve Hyacinths in pots, and C. L. Bathurst, Esq., Penge, second. For a like number of Tulips in pots the first prize went to Messrs. James Winter & Son, West Norwood, and the second to Mr. James Wyatt. Messrs. James Winter & Son were first with twelve Daffodils, being the only exhibitor. For twelve Cyclamens Mr. Thomas Crosswell, gardener to W. M. Bullivant, Esq., Beckenham, was first with well-flowered plants. Mr. F. Watts, gardener to D. J. Trinder, Esq., Caterham Valley, followed with the second, and Mr. James Wyatt third.

Well-grown specimens staged by Mr. C. Lane were awarded the first prize in the class for twelve Cinerarias, this being the only exhibit. Mr. M. Webster, gardener to E. J. Preston, Esq., Beckenham, was a good first with twelve Chinese Primulas, showing fine examples. Mr. C. Lane was a good second, and Mr. W. Slogrove, gardener to Mrs. Crawford, Reigate, and Mr. E. Mills, gardener to F. Lloyd, Esq., Croydon, equal third. Mr. James Gibson was first with six pots of Lily of the Valley, second Mr. C. Lane, and third Mr. W. Slogrove.

Several meritorious exhibits appeared in the class for a group of Cyclamens arranged with small Palms and Ferns for effect. The St. George's Nursery Company occupied the premier position, staging superbly grown plants. Mr. Thomas Pestrige, Brentford, was a creditable second, and Mr. Thomas Walker, Hounslow, third.

Messrs. J. Laing & Sons, Forest Hill, were the only exhibitors in the class for an oval group of stove and greenhouse plants, and were justly awarded the first prize. The group contained Palms, Dracenas, Caladiums, and Crotons, with Clivias, Cyclamen, Arum Lilies, Odontoglossums, Dendrobiums, Cattleyas, and other flowering plants, the whole producing a graceful effect.

Amongst the miscellaneous exhibits was a large collection of Camellias, both plants and cut blooms, from Messrs. W. Paul & Son, Waltham Cross. Mr. J. R. Box, Croydon, staged a fine group of well-grown Cinerarias; another exhibit, also fine, coming from Messrs. J. James and Son, Slough. Messrs. W. Cutbush & Son, Highgate, were represented by a handsome group of forced flowering plants, Hyacinths and Tulips; and from Mr. Theodore Jannock, Dersingham, came a superb exhibit of Lily of the Valley, staged in an exceedingly tasteful manner. Messrs. B. S. Williams & Son, Upper Holloway, showed Tulips, Hyacinths, Clivias, and Lily of the Valley in good form.

REGENT'S PARK.

WITH regard to weather the Royal Botanic Society was very unfortunate on the occasion of its first spring exhibition on Wednesday, as during the greater part of the day the rain fell in torrents. Dismal, however, as was the state of affairs outside, the appearance inside the large conservatory was in all respects inviting, the show of flowers being both large and varied. The trade was greatly responsible for this, for whereas the non-competitive portion was well represented, the prizes offered in the remaining section did not have the effect of bringing together many exhibitors, as several of the classes were totally unrepresented. Mr. Jas. Douglas was the chief prizewinner, being successful in obtaining the highest awards in most of the principal classes. The inclemency of the weather was unfortunate for the Society, as it would doubtless be the cause of preventing many visitors from attending, thus rendering it mutually disappointing, as the exhibition as a whole was quite up to the standard of its predecessors at this season of the year.

Mr. J. Douglas, gardener to Mrs. Whitbourn, Great Gearies, Ilford, was easily first with twelve Hyacinths in pots, showing very fine flowers. Mr. R. Scott, gardener to Miss Foster, Regent's Park, followed, a good second. The first named exhibitor was also to the front with twelve Tulips in pots, his exhibit containing very fine flowers of Keizers Kroon, Joost Van Vondel, Vermilion Brilliant, and others, and, as in the former case, Mr. Scott was second. Mr. Douglas was also first with twelve pots of Narcissi, the second prize again falling to Mr. Scott. Crocuses were well shown, Mr. Douglas being first with twelve pans, and Mr. Scott second.

Mr. Jas. Douglas and Mr. H. Perkins, gardener to the Hon. F. D. Smith, M.P., Henley-on-Thames, were equal first with twelve Amaryllis, each exhibitor showing well-flowered plants. Mr. M. Webster, gardener to E. J. Preston, Esq., Beckenham, had the best six Primulas; Mr. Odell, Hillingdon, being second. The first prize for six greenhouse Azaleas went to Mr. Scott, who exhibited shapely and well-flowered plants. Six remarkably well flowered plants of Deutzia gracilis, shown by Mr. Douglas, won the first prize in the class for them, and this was the only exhibit.

The St. George's Nursery Company, Hanwell, showed twelve splendidly grown plants of Cyclamen, which were justly awarded the first prize, Mr. Pestrige, Brentford, also staging good specimens for the second award. The first prize for a collection of hardy herbaceous plants was won by Mr. T. S. Ware, Tottenham, who staged a pleasing and varied exhibit, in which many well-known flowers of this section were represented.

As is usual at the Regent's Park shows, and already stated, miscellaneous exhibits were the principal feature, these being numerous, and of excellent quality. The various collections were staged up both sides of the long corridor, and the mass and variety of bloom were most effective. Messrs. Barr & Son, Covent Garden, were represented by a large collection of Narcissi and other hardy flowers. Messrs. Jas. Veitch & Sons, Chelsea, sent a collection of their blue Primroses, and a small, but choice, exhibit, comprised of Orchids, Amaryllis, and Ferns. T. H. Burrough, Esq., sent a varied exhibit of Anemone flowers. Splendidly grown Cyclamen came from Mr. Odell, Hillingdon, the St. George's Nursery Co., Hanwell, and the Church Road Nursery Co., Hanwell. Messrs. W. Paul & Son, Waltham Cross, showed a fine collection of Camellias and Tea Roses in pots; and from Messrs. J. Peed and Son, Norwood, came a pleasing group, consisting of flower and foliage plants.

Mr. T. S. Ware, Tottenham, was represented by a large collection of Daffodils and Narcissi, which were extremely effective. The Hyacinths, Tulips, and Clivias staged by Messrs. B. S. Williams & Son, Holloway, made a pleasing show, and it would be difficult to award too much praise to the tastefully choice arranged group of flower and foliage plants sent by Messrs. J. Laing & Son, Forest Hill, who also staged a small collection of Apples and Pears. Messrs. W. Cutbush, Highgate, sent a large and striking exhibit of Hyacinths, Tulips, Cyclamen, and forced shrubs, which were most effective. A good group of Cyclamen came from Mr. T. Pestrige, Brentford, and Messrs. Jas. Carter & Co., Holborn, were represented by plants of their new Primula Bouquet, and a striking mass of well flowered Cinerarias.

Messrs. J. James & Son, Slough, also showed good Cinerarias, and Mr. G. Mount, Canterbury, staged some excellent blooms of Tea Roses. Mr. Chas. Turner, Slough, sent a plant of Calla Elliottiana. Mr. Wells, gardener to T. R. Richards, Esq., Woodford, sent a small group of Gloxinias. Mrs. Walter Mole, Kew, sent a fire-screen in the shape of a pretty arrangement of Daffodils and Arum Lilies; and Mr. C. Last, gardener to H. O. Hagan, Esq., sent a well grown plant of Dracena latifolia.

GARDENERS' CHARITABLE AND PROVIDENT INSTITUTIONS.

THE GARDENERS' ROYAL BENEVOLENT INSTITUTION.—*Secretary*, Mr. G. J. Ingram, 50, Parliament Street, London, W.C.

UNITED HORTICULTURAL BENEFIT AND PROVIDENT SOCIETY.—*Secretary*, Mr. W. Collins, 9, Martindale Road, Balham, London, S.W.

ROYAL GARDENERS' ORPHAN FUND.—*Secretary*, Mr. A. F. Barron, The Royal Gardeners' Orphan Fund, Chiswick, W.



FRUIT FORCING.

Peaches and Nectarines.—*Earliest Forced House.*—Where Peaches, such as Alexander, Waterloo, Early Beatrice, and Early Louise, with Advance and Early Rivers Nectarines, have been started in December, and brought on under safe conditions in respect of temperature, they will now have completed stoning, and after this there is little danger of the fruit dropping, provided the trees are properly supplied with water and nourishment at the roots, the foliage kept clean by syringing, and proper moisture maintained in the atmosphere. If there be any deficiency in these respects, and the ventilation be such as to cause checks, the fruit may ripen prematurely; that is, not complete the final swelling properly, turning soft and dropping, the quality being very inferior, as also is the appearance of the fruit. When the fruit is placed at a disadvantage for receiving light, bring it round so that the light will fall on the apex, supporting it by laths placed across the wires of the trellis, or otherwise draw aside or remove overshadowing leaves. Keep laterals closely pinched, and stop overgrowing shoots. A temperature of 60° to 65° at night, and 70° to 75° by day, with 10° to 15° rise from sun heat, will be necessary to have the fruit ripe at the close of next month, or early in May.

Second Early House.—While some growers complain of bud and flower dropping, others have grand sets of fruit. Early Louise in one garden has set twenty times as many fruits as the trees could mature, and in adjoining one the trees have not a twentieth of a crop. Both are on the same formation—calcareous loam over chalk—but the first gets bone superphosphate, and the latter not any form of sulphate or phosphate but that yielded by the soil. Disbud gradually and carefully, removing the strongest and ill-placed shoots, and heel in the leading and successional growths, taking care not to overcrowd them. Thin the fruit, not being in too great a hurry, but taking advantage of the first swelling so as to get a good size in the fruit retained for the crop. Syringe the trees early on fine days, and ventilate early in favourable weather. The temperature may range from 55° to 60° at night and 60° to 65° by day, ventilating at the latter temperature, and allowing an advance of 5° to 10° from sun heat, closing the house when the heat is decreasing. Avoid cold draughts of air, yet admit it freely in favourable weather, so as to insure sturdy growth, well-developed foliage, and thoroughly solidified wood.

Houses Started Early in February.—The trees are a "sight;" in some case "pictures of beauty," in others the floor is strewn with dropped blossoms, and there is a strange reflection on the face of the cultivator. The flowers in one case are perfect, in the other the pistillate organs are defective, but the staminate are laden with pollen. This is the effect of some cause, and in most cases traceable to a deficiency of sulphur and phosphorus, that means lack of sulphate and phosphate in the soil. Where there is much blossom all that on the under side or at back of the shoots may be removed. Fertilise the flowers when the pollen is ripe, leaving nothing to chance. Ventilate freely above 55°, and allow an advance to 65° with sun heat. Maintain the night temperature at 50° to 55°, and the latter by day in dull weather with a little ventilation constantly, as a close stagnant atmosphere causes moisture to be deposited on the organs of fructification, impairing their power of setting the fruit. Secure a genial atmosphere by sprinkling the floors occasionally, and avoid cold currents, but ventilate early and judiciously.

Houses to Afford Fruit in Late July and August.—Midseason varieties are seen at their best in the structures started in March. The trees are coming into blossom, often carrying too many flowers by half, in which case remove those on the under side of the shoots. In other instances there is a strange scarcity of blossom, all the buds having dropped or nearly so, and this where the trees are grown on the natural system as well as on the orthodox trellis plan. Lifting is the best cure for this, but it only lasts a time, hence some cultivators lift the trees periodically, others without such expedients have plenty of Peaches and Nectarines every year. It is simply a question of soil ingredients and not one of cultivators. Give such trees phosphate and sulphate of lime with a little iron thrown in, and avoid nitrogen as the pestilence till the stoning is over, as a special application. Maintain a temperature of 50° by day, 40° to 45° at night, advancing to 65° with sun and full ventilation.

Late Houses.—The buds are swelling fast, and in some cases coming into flower. When the blossoms show colour a little heat by day is a great advantage in dull weather, as it allows of a circulation of air, but it ought not to be used so as to maintain a higher temperature from that source than 50°. Admit a little air constantly, but in some cases the lights fit so badly and the laps of glass are so open as not to need any further ventilation.

Figs.—*Earliest Forced Trees in Pots.*—Early Violet, St. John's, Pingo de Mel, and White Ischia have the first crop advanced for ripening, when the fruit is simply ruined by keeping it wet, or even allowing the atmosphere to become so moist and close as to cause moisture to be deposited on it. This gets in at the eye of the fruit, which decays

there instead of ripening. Where due supplies of nourishment are given at the root in liquid or solid form, and the atmosphere kept genial by sprinkling the paths and other surfaces as they become dry, there will be little red spider, and fruit of high quality will ripen. A temperature of 65° at night in mild weather, 70° to 75° by day, ranging from 75° to 85° with sun, and closing early to secure 90°, will swell Figs off to perfection, provided the trees have all the light possible. Stop the growths at the fourth or fifth leaf, training the terminals forward when they are stubby, otherwise pinch.

Early Forced Planted-out Trees.—Syringe the trees once or twice a day, according to the weather, and otherwise maintain a genial atmosphere. With the roots confined to narrow borders supply lumpy material as a mulch, and getting roots therein feed with top-dressings of phosphatic and potassic manure, which will get washed in fast enough, as such trees require abundant supplies of water. Stop side shoots at the fifth leaf, as these spur growths give good results in the second crop. Figs like a good range of temperature, high by day and comparatively low at night, 55° being suitable in cold weather, and 60° to 65° in mild, ventilating from 70°, keeping through the day between 75° and 85° from sun heat, attending to air-giving early, and closing in time to husband the sun's warmth.

Late Houses.—Splendid Figs are produced in houses with a south aspect even without fire heat. For general purposes Brown Turkey is unrivalled, and gives good returns in the one crop such trees produce. Brunswick and Negro Largo are grand Figs, also White Marseilles, but they need the roots cramped and the growths trained down instead of up the roof, so that the sun shines right into the points of the shoots, hardening them and causing an abundance of fruit. The principal points in the culture of Figs in late houses is to keep the growths thin, neatly tied to the trellis in summer, allowing the shoots to grow to the light towards autumn for ripening, and when growing afford liberal treatment, ventilating early, and closing in good time.

Melons.—The forwardest plants are coming into flower, showing fruit on the first laterals. To insure these setting it is advisable to keep the bottom heat at 80° to 85°, with just sufficient moisture in the soil to prevent flagging. A rather dry atmosphere favours the production of pollen, affording a little ventilation to prevent the deposition of moisture on the flowers. Fertilise the blossoms every day when fully expanded, and stop the growths one joint beyond the fruits. When these commence swelling remove all flowers, earthing the roots by placing warm soil against the sides of the ridges or hillocks, pressing it firmly. Apply water as required, avoiding a sodden condition of the soil; sprinkle the floor in the morning and evening, lightly syringing at closing time, when the days are bright. During the swelling period Melons require a temperature of 65° to 70° at night, 70° to 75° in the daytime, 80° to 90° with sun, closing early, so as to run up to 90° to 100°, taking care to have plenty of moisture in the house.

THE KITCHEN GARDEN.

Kidney Beans.—These form a good succession to early Potatoes in heated pits, and plants should be raised in small pots, ready for planting as the lights are cleared of Potatoes. Let the rows be from 15 inches to 18 inches apart, and heavier crops will be had than is the case when grown more thickly. The later batches of house-grown plants frequently fail quickly, owing to either poverty at the roots or an attack of red spider. It is excessive heat and strong sunshine that is responsible for these early failures. Sow where possible direct in boxes, or failing these 9-inch pots filled with rich loamy soil, leaving no room for top-dressings. Thin early, and when the plants are beginning to produce pods keep the roots well supplied with liquid manure.

Borecole, Broccoli, and Brussels Sprouts.—The first and last named should have a long period of growth, those plants early got out on good ground invariably proving the most productive. If there are no conveniences for raising the requisite number of plants under glass or on mild hotbeds without glass, sow thinly in drills at once in the open, in poor rather than rich ground. Straw litter favours early germination, and protects the delicate seedlings from cold frosty winds. The only Broccolis that should be sown early are those that commence hearting before autumn Cauliflowers are over, notably Veitch's Autumn Protecting. Sow the rest late in April or early in May. Borecole, Autumn Broccoli, and Brussels Sprouts all succeed well when planted between rows of Ashleaf or other early short-topped Potatoes, when the rows of Potatoes are 3 feet apart.

Carrots.—The first fortnight in April is soon enough to sow the main crop of Carrots. In order to have an early supply of tender young roots sow seeds now of Nantes Horn or other early Horn Carrots on a warm border. The soil should be freely worked, adding sand to heavy ground. Draw shallow drills 9 inches apart, and sow the seed thinly.

Leeks.—There should be no further delay in sowing Leek seed. Sow in the open, and if not crowded the plants may remain where they are raised till from 9 inches to 1 foot in height, when they may be planted on cool, freely manured, deeply dug ground, 1 foot apart each way.

Onions.—When abundance of plants of White Spanish varieties are raised in the open and otherwise treated similarly to Tripolis, good crops of firm, long-keeping Onions are obtained, and that, too, in gardens where the Onion maggot is apt to be troublesome. Raising under glass early and transplanting answers quite as well. If neither of these plans has been adopted seed must be sown in the open directly the ground can be got into good order. Supposing that the ground has been heavily

dressed with manure and deeply dug, it will be necessary to trample it prior to sowing the seed. A surface dressing of soot at the rate of a good half peck to the square rod ought also to be stirred in, other dressings of this, nitrate of soda, or guano, commencing soon after the plants are up. Draw shallow drills 12 inches apart, and sow the seed thinly in these.

Peas and Spinach.—The earlier sowings ought, ere this, to be showing well through the soil, and must be looked after and protected from slugs. The first favourable opportunity of sowing more seed should be taken advantage of, and this time some of the second early and successional wrinkled seeded or Marrowfats may be sown. Have the ground well and finely broken to a good depth, lumpy soil not suiting Peas. Draw wide rather than narrow drills, disposing the seeds of all but the early round-seeded varieties from 2 inches to 3 inches apart each way; cover with 2 inches of fine soil. Mice are plentiful this season, but if the seed is damp and rolled in red lead they will not interfere with it after the first attempt. Sow Spinach thinly in drills drawn midway between the rows of Peas each time the latter are sown, and there will then be no break in the supply.

Early Turnips.—Early Turnips are mostly valuable for flavouring soups. They can best be had from an east border. Manure this freely, break it down finely, and sow the seed thinly in drills 12 inches apart. Early Milan is the variety to sow, and directly the seedlings appear dust over with soot or soot and lime, with a view to warding off destructive attacks of the Turnip fly.

PLANT HOUSES.

Crotons.—Small pieces that are not large enough for notching may be made into cuttings and inserted in sandy soil in thumb pots. These, if placed in the propagating frame or under hand-lights, will soon form roots. Small plants raised by this means are not well furnished at the base, but form good heads for taking off later in the season for use in small pots. Where a large number of small plants are required, the old stools may be retained and allowed to break, when highly coloured pieces may be rooted some months later. Keep all plants close and moist that have been notched, so that they will form roots as quickly as possible.

Dracænas.—Plants that have been raised from portions of the stem and are growing freely in 6-inch pots may have the lower leaves removed and the stem notched. If a little moss is placed round them and the plants kept warm and moist, roots will soon be formed, and well furnished plants can be established in 3½ and 4-inch pots. Stems and roots may be cut up and placed into pans in brisk heat where young stock is needed.

Asparagus.—Where a quantity of greenery is needed, and plants for various forms of decoration, too many plants of *A. plumosus* and *tenuissimus* cannot well be grown. Cuttings root freely; a small frond should be taken with one joint and inserted in sandy soil in thumb pots. These must be placed in brisk heat under a shaded hand-light, which ought to be kept close and moist. They will soon root, and by the end of the season will be useful plants in 4 and 5-inch pots. For cutting purposes *tenuissimus* is more useful than *plumosus nanus*.

Ixoras.—Plants that have been kept in good condition through the winter may, if necessary, be cut back and started into growth in brisk moist heat. Young plants rooted in July and kept in small pots may be placed in others about 2 inches larger. *Ixoras* do well in good peat and coarse sand if water is given carefully after potting. If these young plants are well looked after they will produce one or two large trusses each early in the season.

Justicia flavicomma.—Where a number of plants are not kept for yielding seeds, as many as are needed for the supply of cuttings may be cut down to within about 2 inches of the base. Clean, healthy cuttings will be produced, and these are essential for producing the most attractive plants.

Acalyphas.—Few plants are more useful than well-grown and highly coloured *Acalyphas* in 5 and 6-inch pots, well furnished with foliage to the base. For the conservatory they are superior to *Coleus*, and will stand in this structure during the summer months. Cuttings root quickly in thumb pots if kept close in brisk heat. The old plants from which the cuttings have been taken may be allowed to break, when the balls of soil may be partially reduced and the plants repotted. These will make capital bushes in a short time.

Pancratiums.—Although these flowers do not last long they are highly appreciated when they are produced. Plants that have been growing in the same pots for some years may have the whole of the old soil shaken from the roots and be repotted. Use for a compost good loam, one-seventh of decayed manure, and sand. Give water carefully for a time after potting, and place the plants where they can be shaded from the sun and a moist atmosphere maintained.

Poinsettias.—Portions of well-ripened wood two joints in length may be inserted singly in sandy soil in thumb pots. They soon start into growth in brisk heat; scarcely one will fail. This is the easiest and quickest method of propagation.

TRADE CATALOGUES RECEIVED.

Kent & Brydon, Darlington.—*Farm Seeds.*

C. Turner, Royal Nurseries, Slough.—*General Spring Catalogue.*

Vilmorin, Andrieux et Cie., 4, Quai de la Mégisserie, Paris.—*Tree and Shrub Seeds.*

THE BEE-KEEPER.

APIARIAN NOTES.

CONDITION OF HIVES.

FROM numerous bee-keepers in different quarters comes the report—"The loss of bees is great, but the hives seem as strong as ever." Although not word for word in every instance, all have the same meaning. Had the formula been, "Notwithstanding the great loss of bees, hives are increasing rapidly in strength," it would have explained the condition of my own apiary. Saturday (the 7th) was the finest day we have had this year, the thermometer rose for a short time to 52°, the highest of the season, succeeding a very stormy day, with heavy snow showers, and was followed by 7° of frost, which occurred on five nights in succession. On the 11th the temperature rose from 25° to 50°, the warmth lasting about an hour. These were the only two days our bees gathered a little pollen, mostly from the Willows, as a few Crocuses opened their petals for about an hour only. Bees can air themselves, and return to their hives safely in sunshine at a temperature near freezing; when in damp, sunless weather at a temperature of from 40° to 50° many are lost, as has been exemplified this spring.

On the 7th there appeared to be more young bees playing on the alighting board than adults. On that day I made an attempt to feed a few of my hives for the purpose of pushing them forward to get early and pure queens for breeding purposes, and to supersede any failing or becoming too aged by the month of May or June. Feeding in early spring where honey flows from April till June encourages breeding, and is right, but it is the reverse where honey does not flow till July, so that with our stocks it is better to let the bees alone and work in their natural way, for assuredly producing bees out of season brings about failure.

I am anxious to have young queens ready by May to put the hives in the best possible condition for the Heather, and I hope to start others by August to do duty for 1897. Other things being properly attended to our hives will then be in good condition, and spring dwindling unknown.

In addition to aged queens, spring dwindling is brought about by allowing the queen of a hive to be chilled. Some years ago, when unable to stoop, I omitted to close several ventilators of my best hives, and not one of them did well, and hence my reason for advocating hives to be cosy in winter, also managed so as to be unaffected by sudden changes of temperature throughout the whole season, but perhaps the most fruitful source of spring dwindling is due to feeding injudiciously both in autumn and in spring.—A LANARKSHIRE BEE-KEEPER.

REARING QUEENS.

It is advisable to rear a number of young queens each year, and it is not wise to leave this matter to chance; nor should these arrangements for the coming season be left to the last moment. All colonies should, as far as is possible, be headed by a young fertile queen, and in no case ought they to be kept after they are two years old.

The proper time to rear queens is at their natural swarming season, but the earlier this can be carried out the better. It will take upwards of three weeks from the laying of the eggs till the queen is hatched and laying, and if during that time the queen can be kept laying, at a low estimate it will result in at least 20,000 young bees being added to each stock so treated. A young fertile queen will at that time of the year lay more than double that quantity. These may always be utilised by making fresh stocks, and if these are not required they may be added to other strong colonies, which will reap the full benefit of the honey flow.

On the morning of a fine day early in May, when the bees are well on the wing, take two or three frames of well-advanced brood, with all the adhering bees and the queen, from the original hive, and place them in a new hive, adding a couple of frames of fully drawn-out combs or full sheets of comb foundation, closing with a division board, placing the hive on the original stand. The parent hive to be moved a few yards away; all the bees that are on the wing will return to their original stand, also many of the old bees from the parent stock, which will enable the new-made colony to make progress. The frames in the parent stock should be closed with the division board, and queen cells will at once be started.

If only one queen is required these may all be cut out but one, delaying the operation until the tenth day. Always select the best cell. It is also advisable to rear an extra queen or two in case of loss, as this is a common occurrence when on the wing previous to being fertilised. The queen will hatch in about sixteen days, and if the weather be favourable should be fertilised and laying in less

than ten days. In the meantime the brood will have been rapidly hatching. All the empty cells in the new stock will soon be filled with brood, a frame of which should be taken out every few days and given to the queenless stock and an empty frame be put in its place.

The hives should be moved a yard nearer each other every day until they are close together. As soon as the young queen is laying kill the old one, and put all the bees and frames of brood into one hive. This will result in a strong colony, which in favourable weather will at once store a surplus.—AN ENGLISH BEE-KEEPER.



* * All correspondence should be directed either to "THE EDITOR" or to "THE PUBLISHER." Letters addressed to Dr. Hogg or members of the staff often remain unopened unavoidably. We request that no one will write privately to any of our correspondents, as doing so subjects them to unjustifiable trouble and expense.

Correspondents should not mix up on the same sheet questions relating to Gardening and those on Bee subjects, and should never send more than two or three questions at once. All articles intended for insertion should be written on one side of the paper only. We cannot reply to questions through the post, and we do not undertake to return rejected communications.

Treatment of Agave americana (W. S.).—With substantial but porous soil and plenty of water supplied to the roots during the growing period there is no difficulty in growing this plant. It will, however, bear a surprising amount of neglect as regards being dry even in summer. In winter little or no water is required, the plants being housed safe from frost. The cause of the leaf tips turning yellow may be owing to the soil being kept too wet during winter, or it may be due to an extraordinary loss of roots through a sour condition of the soil. If it is the lower leaves which are turning yellow, turn the plant out of the pot and remove them entirely. Repot in clean, strong, well-drained pots, working in among the roots fresh loamy soil mixed with lime rubbish.

Orchids in a Frame (W. S.).—In a frame of the size you mention we should advise you to grow either cool house species only or warm house kinds, but not to mix them. If you can arrange for a partition, and also have valves to your pipes so as to shut the heat off the cool part you may grow both, though the compartment being so small would be very difficult to regulate as to temperature. We will suppose you are growing cool house kinds only. Have the frame fixed in a light position, but shaded from the midday sun if possible. The sides ought to be at least 2 feet high in the middle, sloping to the front at a fairly sharp angle, and you must be able to close the ventilation at the bottom, though it will very seldom be found necessary to do so. The tallest plants will be arranged at the back of the frame, placed on inverted pots, if necessary, to bring them up nearly close to the glass, the smaller plants being placed in front. All through the summer a little air should be left on the top of the frame, the glass being shaded with garden mats when bright. Remove the shading as the sun leaves the frame, and damp all round and about the plants very frequently.

The Effect of Soluble Cresol on Soil (F. W.).—You and not us have compared this substance—a combination of cresylic acid (cresol) with carbolic acid (phenol), creosote and other ingredients—with soluble phenyle, which does not contain a particle of cresylic acid (cresol), creosote or other ingredients besides carbolic acid (phenol) made soluble. Yet you ask us to confound their identity, and say they are the "same in appearance, odour, and effects on the roots of plants." Is it not strange that you should write us in respect of damage to roots of plants by use of soluble cresol—there is no harm in that or in the carbolic acid made soluble, but there is in creosote—and not mention the ill effects, which we have not found, of soluble phenyle until after we pointed out the real cause of the evil—the mistake of using something else for what was prescribed. The soil containing a good per-centage of lime, and the manure used being potash and nitrate of soda, will tend to neutralise the effect of the creosote, indeed we consider it will have passed off by this time, even if in crude form, but that can hardly be the case in consequence of its association with the soluble cresol and phenol. We are quite aware of the milky solution to which you allude, but that is not always a sign of saponification, but this is, sooner or later, effected in the soil in presence of soda and potash, yet the mischief done before that occurs is injurious, if not fatal to vegetation. It would not be advisable to attempt to saponify the compound before use, but use it at a less strength. It, however, is more or less injurious to vegetation, though a powerful germicide, and must be used with discriminate judgment.

Carnation Leaves Diseased (H. B.).—The fungus on both the specimens is that known as "rust" (*Uromyces caryophyllinus*), the specimen in one case having the pustules burst and the spores exposed in myriads, while in the other the pustules are closed. That is the only difference.

Common Laurel Leaves Brownd (H. H.).—The leaves have the appearance of being destroyed by frost, which is frequently the case where the soil is wet, thus inducing late growth, and no great amount of frost is then necessary to cause their disfigurement. There is no disease caused by parasites—at least, not on the leaves sent; but there may be some on the wood, and in that case the evergreens will die back. We have seen many similar cases on wet and rich soils, when draining has proved effective as a remedy.

Hippeastrums Losing Leaves (Pimlico).—It is natural for Hippeastrums to lose their leaves when they have finished growth and the bulbs are ripened. New leaves are usually thrown up along with the flowers, the growth of the leaves continuing after the flowers have faded. If the leaves on your plants are lost as the flower spikes show, they are probably the old leaves, and the plants will not suffer by losing them. It is owing to full maturation of the bulbs being deferred. Of course, if the plants lose new leaves there is something wrong.

Name of Insect (M. J.).—This appears to be one of the small beetles in the Lamellicorn group, of the genus *Aphodius*. It is not known as an injurious species, but the presence of some under the circumstances suggests that they might be attacking buds or young shoots. They are akin to a well-known June pest—the *Phyllopertha horticola*. You do not state where they appear to muster chiefly, as they are probably out more at night than during the day. It might be well to examine after dark with a lantern, when beetles may often be captured easily on branches or twigs. Supposing they attack wood or foliage, any saponaceous compound would be of service as preventing them from obtaining foothold, also such odorous substances as fir tree oil, a petroleum wash, or one of tobacco. They would be destroyed by most remedies that are used for scale or red spider.

Early Louise Peach Casting Flowers (A Subscriber).—The flowers are perfect in stamens and anthers, but wholly ovuleless, yet not devoid of ovary and pistil. They cannot set, therefore are cast as abortions. It is not unusual for the small-flowered varieties to be defective in this respect when there is a deficiency of calcareous matter in the soil. The best remedy we have tried is lifting and supplying calcareous matter; but very often a supply of phosphates makes a considerable difference, in some cases all, between the buds being perfect or otherwise. We should give the tree some dissolved raw bone superphosphate, $3\frac{1}{4}$ to 4 per cent. ammonia, and $3\frac{1}{4}$ to 40 per cent. phosphates, using 4 ozs. per square yard, and pointing in lightly. It would be an advantage to add to the superphosphate half the amount of sulphate of potash, using the same amount of the mixture. In the autumn lift the tree carefully as soon as the leaves commence falling and mix some old mortar rubbish with the soil, replanting carefully and firmly.

Roses Failure (S.S.).—We should scarcely blame the house for the failure, though the top ventilation is insufficient. The lights ought to have been taken off in June or July, and the Roses would then have had a thorough rest. We should have preferred *Général Jacqueminot* and *Duke of Edinburgh* to *Prince Arthur* and *Prince Camille de Rohan*. The first-named is extensively forced, and is probably the most popular early dark crimson Rose in cultivation. Even with this variety pot culture is to be preferred to planting out in houses. Not only can plants in pots be the more readily forced, but they can also be transferred to the open after they have ceased blooming, and rested there. This admits of the utilisation of the house during the summer and early autumn months for Tomato culture. Tea Roses succeed well planted out in houses similar to yours, as these cannot be grown too strongly, and they are almost continuous in flowering. If a dark variety is preferred it is afforded by the useful *Souvenir de Thérèse Levet*. Under good culture the bushes of this Tea-scented variety produce blooms nearly equal in size and colouring to the "Old Général." This season there has been a marked lack of sunshine, and this, coupled with the fact that planted out Hybrid Perpetual Roses do not as a rule force satisfactorily, are the main cause of your failure. You do not say whether you grow Roses for sale or not. If your object is the making as much money as possible from the house, you are not turning the structure to the best advantage.

Names of Fruits.—Notice.—We have pleasure in naming good typical fruits (when the names are discoverable) for the convenience of regular subscribers, who are the growers of such fruit, and not collectors of specimens from non-subscribers. This latter procedure is wholly irregular, and we trust that none of our readers will allow themselves to be made the mediums in infringing our rules. Special attention is directed to the following decision, the object of which is to discourage the growth of inferior and promote the culture of superior varieties. In consequence of the large number of worthless Apples and Pears sent to this office to be named, it has been decided to name only specimens and varieties of approved merit, and to reject the inferior, which are not worth sending or growing. The names and addresses of senders of fruit or flowers to be named must in all cases be enclosed with the specimens, whether letters referring to the fruit are sent by post or not. The names are not necessarily required for publication, initials sufficing for that. Only six specimens can be named at once, and any beyond that number cannot be preserved. They should be sent on the first indication of change towards ripening. Dessert Pears cannot be named in a hard green state. (W. C.).—Bramley's Seedling.

(Fen).—The Apples are, in all probability, local seedlings that have never had recognised names. (W. P. S.).—1, Court Pendu Plat; 2, Bramley's Seedling; 3, Dumelow's Seedling (Wellington); 4, unknown; 5, Alfriston; 6, Northern Greening. (H. F. B. C. C.).—1, Norfolk Stone Pippin; 2, Tyler's Kernel; 3, D'Arcy Spice.

Names of Plants.—We only undertake to name species of plants not varieties that have originated from seeds and termed florists' flowers. Flowering specimens are necessary of flowering plants, and Fern fronds should bear spores. Specimens should arrive in a fresh state in firm boxes. Slightly damp moss, soft green grass, or leaves form the best packing, dry wool the worst. Not more than six specimens can be named at once, and the numbers should be visible without untying the ligatures, it being often difficult to separate them when the paper is damp. (E. H., *Worksop*).—*Pittosporum Tobira*. (B. J. R.).—1, *Adiantum tenerum*; 2, *Davallia parvula*; 3, *Lomaria gibba*. (S. J. S.).—1, *Oncidium splendidum*; 2, *Odontoglossum Rossi majus*; 3, *Masdevallia Veitchiana*; 4, *Odontoglossum triumphans*. (P. T.).—1, *Tillandsia splendens*; 2, *Ada aurantiaca*. (D. H. J.).—1, *Acacia dealbata*; 2, *Selaginella apus*; 3, *Asclepias curassavica*; 4, *Blechnum brasiliense*; 5, *Lomaria ternata*. (B.).—*Cypripedium Boxalli*.

COVENT GARDEN MARKET.—MARCH 18TH.

MARKET still very quiet.

FRUIT.

	s. d.	s. d.		s. d.	s. d.
Apples, per bushel	2 0	to 4 6	Peaches, Cape, per case ..	0 0	to 0 0
„ Nova Scotia, barrel 13 0	20 0		Pears	0 0	to 0 0
Grapes, per lb.	1 3	3 6	St. Michael Pines, each ..	2 0	6 0
Lemons, case	11 0	14 0	Strawberries, per lb. ..	8 0	14 0

VEGETABLES.

	s. d.	s. d.		s. d.	s. d.
Asparagus, per 100	6 0	to 6 6	Mustard and Cress, punnet	0 2	to 0 0
Beans, per lb.	0 6	1 3	Onions, bushel	3 6	4 0
Beet, Red, dozen	1 0	0 0	Parsley, dozen bunches ..	2 0	3 0
Carrots, bunch	0 3	0 4	Parsnips, dozen	1 0	0 0
Cauliflowers, dozen	2 0	3 0	Potatoes, per cwt.	2 0	4 0
Celery, bundle	1 0	0 0	Salsafy, bundle	1 0	1 6
Coleworts, dozen bunches	2 0	4 0	Seakale, per basket	1 3	1 6
Cucumbers, dozen	4 0	8 0	Scorzonera, bundle	1 6	0 0
Endive, dozen	1 3	1 6	Shallots, per lb.	0 3	0 0
Herbs, bunch	0 3	0 0	Spinach, pad	0 0	4 6
Leeks, bunch	0 2	0 0	Sprouts, half siv.	1 3	0 0
Lettuce, dozen	1 3	0 0	Tomatoes, per lb.	0 6	0 9
Mushrooms, per lb.	0 6	0 8	Turnips, bunch	0 3	0 0

PLANTS IN POTS.

	s. d.	s. d.		s. d.	s. d.
Arbor Vitæ (golden) dozen	6 0	to 12 0	Ferns in variety, dozen ..	4 0	to 18 0
Aspidistra, dozen	18 0	36 0	Ferns (small) per hundred	4 0	6 0
Aspidistra, specimen plant	5 0	10 6	Ficus elastica, each	7 0	7 0
Azalea, per dozen	18 0	36 0	Foliage plants, var. each	1 0	5 0
Cineraria, dozen pots ..	6 0	12 0	Genista, per dozen	8 0	12 0
Cyclamen, dozen pots ..	8 0	15 0	Hyacinths, dozen pots ..	8 0	12 0
Daffodils, dozen pots ..	6 0	9 0	Lycopodiums, dozen	3 0	4 0
Dracæna, various, dozen ..	12 0	30 0	Marguerite Daisy, dozen ..	6 0	9 0
Dracæna viridis, dozen ..	9 0	18 0	Myrtles, dozen	6 0	9 0
Ericas, various, per dozen	9 0	24 0	Palms, in var. each	1 0	15 0
Euonymus, var., dozen ..	6 0	18 0	„ (specimens)	21 0	33 0
Evergreens, in var., dozen	6 0	24 0	Tulips, dozen pots	6 0	8 0

AVERAGE WHOLESALE PRICES.—OUT FLOWERS.—Orchid Blooms in variety.

	s. d.	s. d.		s. d.	s. d.
Acacia or Mimosa (French)	0 9	to 1 6	Narcissi, var., doz. bunches	0 9	to 2 0
Anemone (French), dozen	2 0	4 0	Orchids, various, doz. blms.	1 6	12 0
Arum Lilies, 12 blooms ..	2 0	4 0	Pelargoniums, 12 bunches	6 0	9 0
Asparagus Fern, per bunch	2 0	4 0	Primula (double), dozen	0 6	1 0
Azalea, dozen sprays	0 6	0 9	„ sprays	0 6	1 0
Bouvardias, bunch	0 6	1 0	Roses (indoor), dozen ..	1 0	2 0
Camellias, dozen blooms ..	0 9	1 6	„ Tea, white, dozen ..	2 0	4 0
Carnations, 12 blooms ..	1 0	3 0	„ Yellow, dozen (Niels)	3 0	6 0
Cyclamen, dozen blooms ..	0 3	0 6	„ Red, dozen blooms ..	3 0	8 0
Daffodils, single, doz. blms.	1 6	2 6	„ Safrano (English),	1 6	3 0
„ double, doz. blms. ..	0 4	0 9	„ Safrano (French), per	1 6	2 0
Eucharis, dozen	3 0	4 0	„ Pink (French), per doz.	3 0	4 0
Gardenias, dozen	4 0	9 0	Smilax, per bunch	5 0	9 0
Geranium, scarlet, doz.	4 0	6 0	Snowdrops, dozen bunches	0 6	0 9
Hyacinth (Roman) dozen	0 4	0 9	Stephanotis, dozen sprays	6 0	9 0
„ sprays	0 4	0 9	Tuberose, 12 blooms ..	0 6	1 0
Hyacinths, dozen spikes ..	2 0	4 0	Tulips, dozen blooms ..	0 6	1 6
Lilac (French) per bunch	3 0	5 6	Violets Parme (French),	4 0	5 0
Lilium longiflorum, twelve	3 0	4 0	„ per bunch	4 0	5 0
Lily of the Valley, 12 sprays	0 6	1 0	„ Czar (French), per	2 0	3 0
Maidenhair Fern, doz. behs.	4 0	8 0	„ Victoria (French),	1 0	2 0
Marguerites, 12 bunches ..	2 6	4 0	„ 12 bunches	1 0	2 0
			„ English, 12 bunches	1 0	2 0

adequate supply is provided; but there she stops, she cannot force practice where precept fails, and if the wail of the hungry, ill-nourished infant does not touch its mother's heart she can do no more. The reason that Nature is so persistent in her demand that milk should be the sole food of the immature is that in milk is found every ingredient for the building up and support of the human frame; it alone is a perfect food, beyond the reach of chemist to compound or scientist to improve. Most valuable, nay even indispensable in youth, necessary in old age or delicacy, desirable at all times, it becomes a question of great moment how best to bring the produce in touch with the consumer. Strange as it may appear, this question does not so closely affect the inhabitants of the teeming cities as it does the rural population.

This is an extraordinary statement, but nevertheless true. It is so much easier to work things on a large scale; what is everybody's business is no one's. The demand in the towns is constant, steady, and ever increasing. It is worthy of and gets the attention of the big contractors, men who can pretty well dictate their own terms to the railway companies (that bugbear of the man in the "small way"). Hence milk is produced by the hogshead, is taken to the door of nearly every dwelling, and is guaranteed pure and wholesome by constant analysis. I do not say that as many avail themselves of this rich food as might, but with the fuller production the taste is growing and people are learning that it is wisdom to spend their money rather on wholesome nourishment than on doctor's drugs. Now for the country. A great difficulty here presents itself, a difficulty that really need not exist. Get the farmer to believe that milk-selling pays better than butter and you have solved the difficulty. A very large quantity of country butter is sold at a loss, because in small quantities and of different brands it cannot be dealt with.

One would naturally suppose that the farmers in the village, or at any rate in the parish, might be able to spare an adequate supply of milk for their labourers, tradespeople, or neighbours. In small quantities the milk trade is a tiresome one, the demand is also so irregular. Unless it is a good grass district possibly little is done in the way of breeding and rearing stock, most beasts being purchased at the large markets as yearlings. A farmer keeping a good head of breeding cows must of necessity first consider the needs of his calves. Now by careful breeding and judicious feeding a cow ought to be able to rear three calves. The farm servants, too, consume a considerable quantity, and butter and cream are wanted for the home supply.

Butter under 1s. a lb. is made at a loss. The practice which has come under the writer's notice about milk is as follows:—Skimmed milk (not separated) a meal old is sold to all comers at 0½d per quart, preference being given to own workpeople and butter customers first. This milk, by the way, is excellent in quality, and unless there is a very young child no other is used in the master's house. Of course there may be, and probably are, three or four days in the summer of exceptionally showery, thundery weather when this milk does not keep, but as it occurs at a time when new is cheap and plentiful—i.e., 1d per pint, the latter might be easily substituted. The price of new milk is regulated by that of the butter, and when butter reaches 1s 1d per lb. milk is 1½d per pint. Accounts are weekly or fortnightly as best suits the customer, and in no case, even of the greatest scarcity, is new milk refused to infant or invalid.

The question has often been raised, Should farm labourers be allowed to keep a cow? The answer is, Yes, wherever it is possible. But that is just the difficulty. Where a great landowner lives in or near a village, and takes a lively interest in his poorer neighbours, the cow is an accomplished fact; but without the help of the magnate it would not be easy to bring that state of things about.



THE VILLAGE MILK SUPPLY.

If only we would take Nature as our guide, and be content to be led and directed by her, how much trouble we might save ourselves and others who are dependent on us! Nature says "all young mammals must have milk," and Nature sees that an

The first obstacle (supposing the cow bought) is the housing of the said cow. She must have some shelter. Who is to provide that, and where? For feeding and milking purposes the shed must not be far from the cottage, and at a multiplicity of cowhouses in the village street the sanitary officer might cast an invidious glance. And then, again, there must be at least some rudimentary dairy fit to meet that officer's eye, and these two items would alone add sadly to the expense of cottage property, a class of investment that does not pay 1 per cent. as it is. These buildings must either be raised by the philanthropy of the landlord (already a much overburdened man), the savings of the occupier, or by a loan from the village credit bank, this last only being possible in some few very highly favoured places. No doubt, when thoroughly understood and carefully worked, these banks will become useful factors in village industries.

Now about the food supply. Lane grazing is no longer looked upon with favour; indeed, by the awards of some parishes (ours to wit) it is absolutely forbidden. This is not altogether to be regretted. As a timid school child, the horrors of meeting twenty or thirty cows, "tented" by an elderly imbecile or little boy, are still fresh in my memory. Common pasturage in most parts, too, has disappeared, and it would be difficult to find in most villages suitable grass land for the labourer's cows without taking it from tenants who have already too little home pasturage. Some farmers are willing to let a "cow gate," but the supply is limited, and land is not, and cannot be, laid down to grass without much expense and long delay. The winter feed, too, must be considered. Here the lanes are let at the Easter Vestry (no, Parish C. meeting) for mowing purposes, and many a rough hedge-side, dyke-bottom, or woodland path can be had for the asking.

It might, too, be possible for a combination of labourers to take mowing grass at some distance from home, lead it with borrowed forces, and then divide. A fair sized garden will grow a few Mangolds, and a bit of cake is not a great outlay. Cow keeping is more the wife's province than the man's. Some women are born dairymaids; others, alas! have no notion; and few or none will try to learn to improve their present methods by attending the excellent itinerant dairy schools now to be found in every county. The old system does not secure the best results. Why is it that so much of the cottage-made butter is fairly uneatable after a day or two? To secure every particle of cream the milk stands too long, and sufficient care is not taken in the washing of the granulated butter, or in the thorough removal of buttermilk. Hence the butter meets a bad market, and becomes a loss instead of a gain.

In some cases farmers supply their men with cows, charging them so much per week; but this often is the bottom of endless disputes and wranglings. Sell milk and butter at a fair price, and you are much more likely to live at peace. It was the custom when things were better to give the men old milk, but the jealousy and heartburnings were intolerable, and now that "Jack" is as good and sometimes better off than his master, it answers best to put these matters on a business footing. Where one or two small holdings exist in a village a clever woman may sell at her door every ounce of butter and every drop of milk she can spare at a paying price.

WORK ON THE HOME FARM.

The much-needed rain has come, and in quite sufficient supplies for present wants. A little March dust would not now be unwelcome. One or two sharp mornings have reminded us that frost may yet have to be reckoned with. Still, it only freezes in a half-hearted way, and there has been practically no check to the growth of spring food. This should have an appreciable effect on the price of store stock. The firmness of the London wool sales will give confidence to the buyers of sheep, which have been depressed by the large imports of foreign mutton. The lambing season so far appears to be a favourable one, a large fall of lambs accompanying a mortality amongst ewes which is below the average. Heavy loss is hardly known this year.

The rains have partially stopped drilling, but a good breadth has been got in which will serve for the present. Fallows require dry winds to again work well. The roller will have to be kept constantly at work when the land is dry enough, as it is not in the friable condition it was last March after the frost, and the heavy clods must be broken before they get too hard. On soils of a retentive nature ploughing must

not be neglected. There is too great a tendency to trust to new fashioned grubbers and so-called labour-saving appliances, but good and useful as they are, they will not turn over the land like a plough, and now the introduction of the chilled American and double-furrow ploughs have so much reduced the cost of the operation, we doubt whether there is any real saving in neglecting it; at any rate, the rampant thistle will be very punctual in calling attention to any failure in this direction.

Small seeds are being sown now on the early spring corn. Early sown seeds, especially those harrowed in after the corn drill, are most certain to make a plant, as they get firm hold before the heat of summer, but there is the alternative danger of too much Clover if the season be a wet one, and a difficulty in harvesting to follow. If the land be subject to weeds the Clovers had better be kept in the granary until April, and then harrowed in.

It has been a very fine season for early field Peas, and the first sowings will soon be showing above ground. It is time the main crops were in, as it does not pay to grow Peas to pull far into July. As pastures will soon be ready to stock, any necessary repairs to fences should be no longer delayed.

THOSE WRETCHED POTATOES—AN IRISH VIEW.

Apropos of "Those Wretched Potatoes," on page 220 of the *Journal of Horticulture*, it may be interesting, or at least amusing, to quote from an article contributed to the "Weekly Irish Times," of March 7th, by "J. A. C.," entitled "The Social Effects of the Potato." After smartly introducing his subject the writer goes on to say that he thinks before he has done "all intelligent readers will agree that the oppressor never devised a more potent engine of national demoralisation than the escalent tuber, so closely associated now with our island's history and character that Pat and his Praties are as inseparable in the popular mind as Mr. Gladstone and his collars." Then follow six indictments, from which I cull "The Potato is a direct incentive to laziness. It requires little labour and less skill.

"One of the best known authorities on matters agricultural in the kingdom told me that the finest Potatoes he ever saw were grown by an old woman who planted them with her kitchen shovel in her little back garden. The most ignorant labouring man could do the work of planting as well as the most scientific farmer, and when planted they needed little further attention. And they were so prolific that one man's work could grow enough for forty, so that in a land where the only occupations possible were Potato planting, stock-raising or fighting, the other thirty-nine offered a fine field for Satan's proverbial ingenuity in suggesting mischief. And the womenkind were equally affected. There was no domestic or culinary skill necessary for preparing the Potato for food; an iron pot and a drop of water on a turf fire did the job, and the housewife could sit on her hunkers till the Potatoes were 'bilt.' . . . It stays the pangs of hunger, fills up your internal cavity, and makes you fancy that you have had a good meal. But it doesn't really stir you up for work; any little energy it gives is soon exhausted, and doesn't last, and of course no one can blame the poor chap . . . if he goes off for a gossip or a glass of something. 'Tisn't he that's to blame, but the confounded Potato he has eaten. . . . Talk about bad government, and landlordism, and bad land laws being the cause of Irish agrarian difficulties—psah! It was the Potato that did it. . . . That's all bad enough, but it isn't the worst of it, for the Potato has played us wicked tricks than that."

One really cannot do justice to "J. A. C.," the writer, in cutting up his clever article, which is too long to reproduce here, for the way he mauls and mashes the national root can leave but little doubt on the reader's mind that it is the root of all the evils the Emerald Isle is heir to. He concludes by saying, "Now, I think I have sufficiently proved my charges, and have shown you, beyond controversy, that the much-lauded Potato of Ireland is a fraud."—K., *Dublin*.

METEOROLOGICAL OBSERVATIONS.

CAMDEN SQUARE, LONDON.

Lat. 51° 32' 40" N.; Long. 0° 8' 0" W.; Altitude 111 feet.

DATE.		9 A.M.				IN THE DAY.				Rain.
1896. March.	Barometer at 32° and Sea Level.	Hygrometer.		Direc- tion of Wind.	Temp. of soil at 1 foot.	Shade Tem- perature.		Radiation Temperature		
		Dry.	Wet.			Max.	Min.	In Sun.	On Grass.	
	Inchs.	deg.	deg.		deg.	deg.	deg.	deg.	deg.	Inchs.
Sunday .. 8	29.961	52.8	50.6	S.W.	42.8	55.2	44.1	62.2	43.2	—
Monday .. 9	29.998	52.6	50.6	W.	44.1	60.3	49.6	94.2	43.2	0.180
Tuesday .. 10	30.327	40.2	38.2	N.	44.8	51.8	35.7	77.7	29.1	0.010
Wednesday 11	30.082	50.3	48.4	W.	48.8	59.7	40.7	94.7	38.1	0.102
Thursday .. 12	30.112	42.7	40.1	N.E.	44.9	48.0	41.8	68.8	40.2	—
Friday .. 13	29.990	40.2	36.2	S.E.	43.9	44.3	36.2	54.0	31.2	0.010
Saturday .. 14	29.829	43.7	41.0	S.	43.0	53.4	40.0	80.2	37.2	0.029
	30.043	46.1	43.6		43.9	53.2	41.2	76.0	37.5	0.331

REMARKS.

- 8th.—Overcast day, with occasional spots of rain.
 9th.—A little drizzle early; frequently sunny in morning; rain all afternoon.
 10th.—Sunny early; smoke fog from 10 A.M. to noon; light necessary for a time; sun again till 3.30 P.M., and fair later; a slight shower at 11.30 P.M.
 11th.—Fine and frequently sunny day; rain from 7.30 to 8.30 P.M.
 12th.—Slight showers in small hours; overcast morning; some sunshine in afternoon.
 13th.—Overcast throughout.
 14th.—Generally overcast, with showers in afternoon; gleams of sun at 1.30 P.M.
 Another mild week, but not so wet as the previous one.—G. J. SYMONS.

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Journal of Horticulture.

THURSDAY, MARCH 26, 1896.

THE ACTION OF FROST.

THERE is much in this subject which must still be classed amongst unexplained natural phenomena. In its bearing upon horticulture it is, at least, interesting, and worthy of closer attention than appears to have yet obtained, notwithstanding that effects directly traceable to the action of frost so often present themselves to our notice. At most anything advanced in this brief article can be but the expression of a desire to unravel secrets which are, so far as the writer is aware, as yet unrevealed; hence, it will be understood that any discussion evoked will be as interesting, perhaps profitable, to the writer, as it would probably be to the bulk of our readers.

We have, in the first instance, but to note the delicate tracery on the windowpane, or the marvellous configuration of snow crystals as revealed by the microscope, to feel that there are here natural laws working out these ends which scientific pens have yet to inscribe on our statute book. This perfection of pattern and faultlessness of design must, I think, be sought for in extraneous causes—viz., air currents, waves of light, or even of sound. In our more immediate field of labour and research frost frequently affords various perplexing problems in the partiality of its effects. This cannot wholly be attributed to the susceptibility of the subject influenced by it, but it may for present purposes, or indeed for all, be termed the action of frost.

The first question advanced for consideration is the effects of frost upon our so-called hardy plants, trees, and shrubs. Given frost sufficient to penetrate absolutely the substance of root, stem, and branch, can increased intensity do more—augment the injurious effects? Yes, the conclusion will be arrived at, in recalling some example of arctic severity, with its consequent effects upon animal as well as vegetable life. Yet reflection may admit this to be, to some extent, a false conclusion drawn from personal feelings, or animal experience, if it may be so termed, in contradistinction to subjects in which under the action of frost, all vital functions are for the time being suspended. Can frost do more with water than convert it into a solid block of ice? Knowing the principles of

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expansion by heat and contraction by cold to its limit, a few degrees above freezing point, when this order is reversed, and with a cube of ice produced, say, by 20° of frost, will continuity or an additional 10° or 20° result in further expansion? I believe not. If this was the case it would do much to explain the higher death rate in the vegetable kingdom experienced under these cumulative conditions.

The action of frost on hardy plants—that is, plants which have proved themselves hardy under any extremes our own climate subjects them to—proves their pre-eminent adaptability to that total suspension of all vital functions, with their inherent power to resume them uninjured. Whereas, per contra, amongst the so-called hardy plants, trees, shrubs, or what not, to what cause must we attribute the mortality entailed by a winter of abnormal severity? Here the question arises, Do we draw conclusions from reliable data—viz., under the normal conditions of an ordinary winter do they become actually and absolutely frozen?

Again, what are the frost-resisting qualities of the cellular tissue and their component fluid matter? In this case we are not dealing with water pure and simple, for at this season of rest water, or the form of it elaborated into sap, must be least in evidence. Then, it may be asked, is this fluid matter contained in the cells of a higher freezing point than water, varying in power according to different species of plants? Granted that such is the case, whence the injury or mortality under more intense frost, and wherein is the susceptibility to its influence? Is it that the cells are ruptured by expansion? This phase of the subject opens up a wider field of thought and inquiry.

Atmospheric pressure is, I think, a factor which may now be included, but it is a very intangible subject to grasp. Aware, as we are, of the supportive power of our atmosphere, and, also, of the variations in density as recorded by the barometer, it is possible that we have here an influence not to be ignored. The coming and going of frost being usually accompanied by fluctuating pressure, there appears to be some reason for surmising that these changes, sudden, perhaps, have a contingent bearing on the matter.

The simple question "Why do hardy plants come through the ordeal without injury?" may be as simply answered, "Because they are hardy." But why are they hardy, and in what does their hardiness consist? Days, weeks, or months of frost makes no difference (to the perfectly hardy subject be it understood), nor, indeed, should it, for in the total suspension of animation time is, practically, lost sight of. Lily of the Valley is now held back for months, and if we are able to deceive Nature by artificial refrigeration for months, why not for years? Anyway, I hope these powers of endurance, if dormant life can be said to endure, will be tested by those who have the facility to do so. Hardy plants are, presumably, adapted to those conditions of frost by their constitutional elasticity—literal elasticity of the cellular tissue to sustain the change—the recall to active life—without injury, and this power may be more or less absent in so-called hardy plants.

That we must look for the chief cause of injury in rupture of the cellular tissue is, I think, evidenced by the long-delayed effects noticeable amongst evergreens, Roses, or similar subjects. Not until a fuller demand is made by Nature upon them when arriving at the period of active growth do we, as a rule, become aware of the actual damage; then the disorganisation is apparent in the collapse which takes place.

The action of light in its relation to frost is another matter for consideration. Light as a decomposing agent possesses influence better known than understood, and with frost-bitten subjects we find that its exclusion minimises the injury. It is well known, as it was, indeed, a generation since, that the gradual extraction of frost by the exclusion of light with a liberal douche of cold water, is the simplest and safest remedy to employ where tender plants in frames or houses should unwittingly be subjected to the ordeal. Some thirty years since I was witness of a case in point where the whole stock of a greenhouse was frozen stiff, root and branch. Prompt attention by these measures was given, and what at

first sight looked like a calamity eventually proved to be of comparatively little moment, but few of the occupants being seriously injured and fewer still killed.

In the course of a gardener's life a variety of experience is afforded by the subject, but this being chiefly confined to the effects of frost rather than to its action, the observation is but desultory and provides no reliable data for analysis. The refrigerating chamber should be a valuable laboratory for scientific research, providing immunity from many disturbing influences accompanying open-air observation. Under those conditions the intensity of abnormal frost may not, obviously, be reproduced, but its duration, which is hardly of secondary importance, should be of distinctive value in experimenting. Sections of root or branch would doubtless, by microscopic examination, yield data explanatory of things as yet but imperfectly understood, or of which we are in ignorance. Moreover, the subjecting of plates of glass on which condensed moisture has been deposited when submitted to the action of various currents of air, or waves of light, might probably reveal the more subtle of secret workings.

In the dynamic expansive power of frost in its relation to soil we have a potent agent for good, the aëration of retentive soils by this means having a beneficial influence which may be superficially overlooked, though the general good derived is admitted. Under this phase of the subject the question is presented whether we may not have an influence working out far-reaching ends, farther than usually accredited to it. There is, I know, a vague foreboding among the weatherwise that an open winter is followed by an uncongenial spring. And not without reason, which may be more clearly defined in supposing, rightly, I think, that during the absence of frost radiation from the earth's store of heat is constantly going on. Frost admittedly cools the ground, but only so far as it penetrates; it must then seal up, during its presence, the thermal stores, whereas the constant radiation during an open winter can be but an expense of means to the end of an uncongenial spring with its May frosts, the *bête noir* of a gardener's life at that season.—INVICTA.

CULTURE OF HOLLYHOCKS.

THE Hollyhock is the noblest of all florists' flowers. Towering above all its neighbours like a giant, and in almost every shade of colour, we know no other plant that could take its place. What other could give such a bold appearance to mixed borders? Its flowers will also bear a very favourable comparison with most florist flowers, and stands of its cut blooms form very appropriate companions to the Dahlia, not only on the exhibition table, but in almost all positions. In fact the two are so thoroughly united together in my mind that they almost seem inseparable. As back lines to broad flower borders they are in my opinion unsurpassed, the noble bearing of the Hollyhock adding to the massive beauty of the Dahlia.

It forms no part of my intention in the following notes to trace the history and gradual improvement of the Hollyhock by the skill of the florist. It is quite sufficient for my purpose to know it was introduced from China—a very different looking plant to what we have it at the present day. It will under certain conditions endure the ordinary winters of Britain—a circumstance I never advise, as I consider it quite worthy the shelter of a cold frame during the winter, and that is the only protection it requires except in sharp weather, when a little extra covering is advisable. It belongs to the order Malvaceæ, which implies that the plant requires plenty of light and water.

In giving my method of successfully growing the plant I will first say that it is my usual practice to have at least the half of my stock young plants every year, believing they, in common with many other plants, produce better individual blooms than do old plants; and by having two sets, old and young, the period of flowering is prolonged, the old coming earlier into bloom than the young plants.

For many years after becoming a grower and ardent admirer of the Hollyhock there was no other mode known to me of increasing the stock except by cuttings of the young shoots, and single eyes, before the stems had become hard in the autumn. With cuttings I found considerable annoyance at times through, I believe, my anxiety to push them too quickly with heat. After a

time I had fair success with putting the cuttings into a cold place until they were fairly callused; when introducing them into a little bottom heat they emitted roots immediately. Since grafting became known to me I may say I have alone adopted that mode of propagation. I usually graft early in February. The young shoots that spring from the stems are taken off the same as for cuttings. A slice is taken off the side with a clean sharp knife; a corresponding slice is taken off a piece of root, both fitted together, a small pin being thrust through both to keep them from shifting; then bind with mat, pot in friable sandy soil, and plunge in smart bottom heat and shade carefully. In eight days or so the grafts will be taken and the pots filled with roots, when more light and air must be given, gradually inuring them to the temperature of the cold frame. The plants will now be ready for a shift into 5 and 6-inch pots, and should never be allowed to receive a check till planting out during the first days of April.

We usually plant in lines 3 feet apart; if in open squares, 4 feet between the rows and 3 feet between the plants. In planting always place the stake first, and then there is no danger of bruising or breaking the roots; and our practice is to leave the empty pot beside the plant, so that we have a covering at hand in case of frost, but never leave the pots over them when not actually required, or allow the plants to suffer for want of moisture. They require an abundance of water in dry weather. Syringe also the foliage on the evenings of fine days, both the upper and under side of the foliage, so that red spider may not gain a footing. As the spikes rise tie securely to the stake and pinch out the side shoots. In some instances when the spikes are extra strong I have pinched the side shoots at the second joint, and left them for a time.

Thin-out the blooms so that they may not be overcrowded on the spike, and when they begin to show colour place something behind the flower to set them out a little from the spike, and top the spikes at 8 or 9 feet from the ground. Early in June I always give them a good heavy top-dressing of rich manure, and if the weather proves dry at the time giving them also a complete soaking of water. With the aid of the mulching they do not become quickly dry again.

The preparation of the soil is a matter of prime importance, as no after-management can compensate for it if defectively performed. In the autumn I manure heavily and trench the ground deeply. After lying as rough as possible to the action of the weather during winter I again trench it over in the spring, knocking it well about and breaking it up. I have grown Hollyhocks on the same piece of ground for years, and instead of finding them deteriorate through such a course, have found them improve, through no doubt the ground being so thoroughly wrought and deeply cultivated, which I consider of more importance than anything else in cultivating the Hollyhock to the highest degree of excellence.—J. B. S.



ODONTOGLOSSUM CRISPUM ARTHURIANUM.

New varieties of *Odontoglossum crispum* are constantly being shown at the meetings of the Royal Horticultural Society, and no Orchids attract more general admiration from the visitors. Many of those that are exhibited bear too close a resemblance to existing named varieties to warrant their being awarded any direct recognition by the Orchid Committee, but occasionally there comes one that is bound by reason of its great beauty and distinctive markings to be noticed. Amongst these latter must be placed *Odontoglossum crispum Arthurianum*, which was shown at the meeting held at the Drill Hall on the 10th inst. The flowers, as may be seen by a glance at the woodcut (fig. 49), are large, all the organs being of great substance. The ground colour is bluish white, the sepals and petals being heavily blotched with chocolate brown. It was staged by Mr. W. Bobbins, gardener to W. Vanner, Esq., Chislehurst, and received a first-class certificate.

SPRING TREATMENT OF ORCHIDS.

THE true lover of Orchids is never happier than when busy amongst them, and at this season he will find plenty to do and plenty to interest him. Species and varieties are now following each other in such rapid order that where a collection of any size is

grown few days pass without something fresh opening in the way of flowers. Where the plants, too, have been judiciously treated during the winter it is of hardly less interest to watch the progress of the young growths, and that it is of more importance goes without saying. The dry-looking stems of *Thunias* have as yet no flowers to look forward to, but the base of each strong bulb is now pushing one or two young shoots, with occasionally one or two more on the top, showing it is high time to provide new sweet compost for the roots that will soon be issuing to run into.

Calanthes of the deciduous species, too, are over, and need the same attention. Both are naturally epiphytal plants, but are found to do best in something very much like a terrestrial compost under cultivation. The most critical time in their culture is over as soon as they are rooting freely in the new pots, but until then very great care is needed in watering. This operation, always



FIG. 49.—ODONTOGLOSSUM CRISPUM ARTHURIANUM.

important, is doubly so at this time of year when the tiny shoots are forming, and many a fine growth of *Dendrobium* or *Cattleya* has been spoilt by carelessness in respect to it. In a general way, and with the pseudo-bulbous kinds especially, much less water is needed now than in the autumn when the plants were storing nutriment in the newly made bulbs to tide them over a long dull winter. A good deal of this is still unused, and on this the young shoots feed, so to speak, until they are old enough to forage for themselves by means of their own roots.

Scarcely less injurious to the tender shoots are bright bursts of sunshine following a period of dull weather, and to guard against this we are now fixing up the blinds. The simplest and at the same time most effectual way of manipulating this is by the ordinary roller and pulley arrangement, complicated systems giving much trouble and no compensating benefit. It is best in all cases to have the blind a foot or so away from the glass, this allowing a current of air to play between and keep the temperature down. Any parts of the house that cannot be covered by the blind, such as ends or angles, should have a little tinted permanent shade put on, this looking much neater than whitening or lime. Shading will, of course, only be needed for just an hour in the middle of the day during the present month, but the sooner they are up now the better, so as to be ready for emergencies.

To illustrate my meaning: to-day, March 14th, has been a most trying one. A cold east wind had been blowing with storms of sleet and snow up till about 11 A.M.; and consequently we had to warm the pipes well to keep the warm house up to about 65° or 70°. Just after, the sun shone out brightly, and the temperature in a few minutes had advanced nearly 10°. A little top air was at once admitted, but this did not prevent a rapid rise, owing to the fire heat as well as sun. Had the blinds been fixed on this house I should certainly have had them run down for a little while, so that the temperature of the house would have risen more gradually, and

they could then be taken up rather before midday, closing the house with moisture, and no more pressing of fire heat would be necessary until four or five o'clock.

In fact all operations connected with culture require a great deal of judgment and observation now, more so than at any other time of year. The atmosphere must be kept moist in all the houses, as it is inadvisable to water the plants much at the roots, and if not done insects of all kinds soon put in an appearance. Thrips revel in a hot dry atmosphere, and are a terrible pest if once they get the upper hand. Time after time must the plants be sponged, and as often as they are killed another generation is ready to take their places, owing to the great fecundity of these insects. Tobacco is the only remedy likely to be successful in making a clearance, and in its varied forms is one of the most useful of all insecticides. The vaporising treatment is much preferable to the old style of smoke fumigation, as few if any plants are injured thereby, while the tobacco water is most useful for sponging.

It is now a capital time to purchase imported plants, as they have the whole season in front of them to recover their journey. In selecting Orchids of any kind from an importation choose those that are quite dormant and fairly large, as representative of the species, as such are always more satisfactory than weak plants or those that have started into growth on the journey. All distichous-leaved kinds, as *Aërides* or *Vandas*, and all evergreen species, such as *Cattleyas*, should have good healthy leaves on them.

Cypripediums ought to be firm at the base and also have good foliage, while *Dendrobiums* should be stout and healthy looking about the basal eyes, which latter ought, of course, to be dormant. Such plants are very little trouble to establish, and if carefully treated may almost be potted up at once, though a thinner and rather more open compost should be given than that recommended for established plants.—H. R. R.

DENDROBIUM THYRSIFLORUM.

THIS is usually an easy plant to manage, and yet we often hear of its failure to bloom. While it is growing it should be helped as much as possible to make a strong, unchecked growth until December, when it should begin to rest. In January and February the plants must be dried until the pseudo-bulbs show signs of shrinking, and then water should be given. If this is kept up the bulbs ought to be 1 or 2 inches long by the middle of February. If dried too completely the buds shrivel; if kept too moist new growths are encouraged at the expense of flowers. *Dendrobium Hookerianum* and *D. Dalhousianum*, in order to be flowered successfully, need more severe drying. If treated as evergreens they flower sparingly. Indeed, says a correspondent in the "Garden and Forest," I have known specimens of *D. Dalhousianum* to be 5 feet high that have not bloomed for years. With a good root-system and large, healthy pseudo-bulbs a little shrivelling does not hurt them in the least.

HOUSE DECORATIONS—TREATMENT OF LARGE PALMS.

INDOOR decoration in its many phases has now become so general, and is in many private places so extensively practised, that it may fairly be termed one of the most important branches of the gardener's art. To carry it on successfully requires an expenditure of thought, judgment, and unflagging energy, that would surprise not a few who are accustomed to take a somewhat superficial view of the matter—a view held only by those who have never been, so to speak, in "the thick of the fight."

The bold method of plant arrangement, now so prevalent, has led to a great demand for large Palms of stately proportions in comparatively small pots or tubs. These, when judiciously disposed about the many large and handsome rooms to be found in not a few of the "stately homes of England," produce an effect not to be obtained by any other means, and entirely in character with the surroundings. In connection with the matter a great difficulty presents itself—viz., that of keeping such large and valuable plants in fairly good health while they are sojourning in these uncongenial quarters. All gardeners know it is not a particularly easy matter to maintain such in perfect health and vigour when growing in glass houses in every way suitable for them; how much more difficult must it then be to prevent them from "going wrong" during a long stay in dry, hot dwelling-rooms? Where an ample stock of plants is at command much can, of course, be done by changing frequently: but where a dozen of these large Palms are constantly in use a treble set of plants would require a great amount of glass space for their accommodation; in fact, something approaching the resources of a Frogmore, a Chatsworth, or a Trentham. Unfortunately, however, the demand

exists in places where the resources of these famous gardens are not at command. Then it is a matter of doing like a Briton should, the best that can be done under the circumstances.

Having had a considerable amount of experience in managing large Palms under difficulties I venture to pen a few lines, which I hope will be useful to others similarly placed. *Kentias* are real friends of the house decorator, as their lasting qualities are so good. We have large plants in 12-inch pots which have been kept for five consecutive months in dwelling rooms without having lost a single leaf, though of course the inevitable "limpness" in them could be at once detected when felt with the hand. With careful treatment during the remainder of the season in a warm shaded house the whole of the leaves regained their wonted freshness and texture.

Phoenix rupicola and *dactylifera* have also good lasting qualities, and seem to be equally at home in warm or cool rooms. *Seaforthia elegans* is well known as one of the most handsome of Palms, but should if possible be placed in the coolest rooms, though of course not in draughty positions. In cool rooms, with the attention I shall hereafter describe, even *Seaforthias* may be kept for months in good condition; but placed in rooms where large fires are constantly maintained the foliage quickly loses substance, and becomes too weak to support its own weight. *Areca sapida* has bold striking leaves, and is extremely useful, but should never be placed in the warmest positions. *Cocos plumosa*, with its light graceful leafage, has no rival in point of attractiveness. The dry atmosphere of rooms, however, so quickly turns its thread-like leaflets yellow at the points that it should never be left in such positions longer than a couple of weeks at a time. It is a scarce and valuable Palm, and on that account I think ought rather to be reserved for special occasions, instead of being used constantly.

The several varieties of *Chamærops* are especially useful; but they do not like warm positions unless they have been grown in a warmer temperature under glass than is usually given them. To remove plants grown in an ordinary greenhouse temperature in winter to the dry atmosphere of a dwelling room usually results in the bulk of the leaves turning yellow in a few weeks, whereas if placed in rooms only occasionally used, or in entrance halls where the temperature is comparatively low, they may often be allowed to remain for three months at a time, and then be but little the worse for their stay there.

Now for a few remarks on the treatment necessary to insure the best results possible for Palms subjected to such unfavourable conditions. The first step towards success in the matter is to start with healthy plants free from insects, having a vigorous amount of root action; too much pot room has been the cause of many disasters among plants used for house decoration, and herein lies another forcible example of the truth of a well known adage, "Necessity is the mother of invention." The employment of vases and other ornamental receptacles for placing plants in made it imperative to limit as far as possible the size of the pot in proportion to the plant, a practice I am fully convinced is also conducive to the well-being of plants growing in dwelling rooms, provided they are managed on the right lines, but if once they are allowed to become thoroughly dry the result is often fatal.

The following is the plan I practise and strongly recommend others to try. Each large Palm is provided with a shallow water tight tin, about an inch and a half in depth. If vases are at command for placing the plants in the tin is placed in the bottom of the vase before placing the plant in position. The surface soil of the pot is then neatly mossed, but the space between the pot and the inside of the vase is not filled with moss (although many still follow that practice). This allows a free circulation of air around the pot, tends to keep everything sweet, and moreover greatly lessens the labour of frequently lifting the plants out of the vases in order to remove the moss and stagnant water resulting from repeated waterings. These tins also serve another and important purpose. They are useful for keeping a little water in constantly, and by doing this wonders may be accomplished in the way of preserving plants in health. I do not recommend that water should be kept in all tins alike; every plant must be studied in this respect and its peculiarities will soon be discovered by an observant waterer.

Seaforthias I find delight in a far greater amount of water at the roots than other Palms. It is necessary that the pots should first become packed with roots, then nothing but good will follow in the wake of the aquatic treatment. Commence by leaving water to the depth of about a quarter of an inch in the tin; if by the next morning this has been entirely absorbed, a greater depth of water should be given till the capacity of the plant has been properly gauged. During the warm days of spring and summer it is surprising the amount of water these Palms draw up from the

tins. There are times, however, when they seem a little sluggish, and the water decreases but slowly; it is then better not to add more till the tins have been quite emptied. About once a fortnight the tins should be removed, washed, again placed in position, and be partly filled with water. In the case of Kentias I do not leave water constantly in the tins, except when the plants are growing in pots exceptionally small in proportion to the size and vigour of the plant; but the tins are nevertheless extremely useful in this way.

In examining the plants each morning we have to bear in mind that twenty-four hours will elapse before we can do so again. Now, this is really too long to leave them during bright weather, or even in hot rooms during severe weather. Similar plants in glass houses would sometimes require attention twice or thrice in that time, we therefore compromise matters in this way. If on examination any plant appears to be approaching dryness, and yet not quite so dry as we should like it to get before being watered, a little water is placed in the tin; this carries it safely over till the next morning, when the tin is invariably empty, and the plant also in the right condition for watering. This plan I have always found to answer admirably. All who have not tried the above method, I would strongly advise to do so at once, and I am sure they will be both satisfied and pleased with the result.

There is one other point in connection with this subject which should have strict attention, in fact much more than it usually receives; it is this—cleanliness. All Palms during their sojourn in the rooms of a mansion should be cleaned once a week, as they can scarcely be considered objects of beauty if coated with dust, and they certainly will not long remain healthy under such conditions. A plan which answers well is to wipe with a damp cloth one week, and sponge thoroughly with warm water the following one. This is the best combination of speed and efficiency I have yet been able to arrive at.

All these matters require the expenditure of a large amount of time and close attention to detail; but the results amply repay the labour, and I have yet to learn that any good work can be accomplished unless our best efforts are devoted to the performance of it.—H. DUNKIN.

HORTICULTURAL HISTORY NOTES.

THE NURSERIES AND GARDENS OF OLD LAMBETH.

THE word "Lambeth" has proved rather a puzzle to some of the folks who investigate the names belonging to localities, because there is a "b" in it which does not seem explainable, for according to the best authorities, the oldest form of it is *Lambethithe*. Afterwards we find it sometimes spelt simply as *Lamhithe*; that might of course mean the "dirt haven," quite applicable to a low-lying, marshy place, but still the *lamb* remains as a difficulty, because we have no account of any flocks of sheep having been kept there by our ancestors. It is more likely, that on the drier and higher portions of old Lambeth, Saxons or Normans grew vegetables, chiefly Kale, which was carried to London by boat. The ditches and marshes later on were much resorted to by the herbalists, since they yielded Cresses and a variety of wild plants.

During Tudor times Lambeth had walks shaded with Willows, where citizens strolled on summer evenings; and, of course farther inland, yet commanding views of the Thames, there were pleasant spots on which not only nobles, but kings, built themselves mansions. No doubt the earliest residents here who took some interest in horticulture were the Archbishops and their followers, for the clergy brought, or obtained from the Continent, various flowers, herbs, and vegetables, which they kept in their own gardens, and which remained little known to the world beyond during many years. But the first garden at Lambeth that seems to have had a distinctive name is supposed to have been laid out by Thomas Howard, Earl of Arundel, who had a house in the Strand, nearly opposite, and died in 1646. Some time after the Restoration Byder Coper, who was gardener to the next earl, got possession of this ground in Surrey, and it became known by his name, though also jocularly called "Cupid's Gardens."

Having made arbours and shady walks, which he adorned with sundry statues picked up at Arundel House, he opened the place to the public, and till the middle of the eighteenth century it was a favourite resort. Dr. Johnson mentions passing the gardens soon after they were closed. The present Waterloo Bridge Road passes over this site. Near the Waterloo Terminus is the uninteresting Vine Street, said to record the existence of a flourishing vineyard on a slope thereabout some centuries ago. The Dukes of Norfolk had a house at Lambeth, probably with garden attached, in the reigns of Henry VIII. and Elizabeth, and Oldys, in some notes on

trees, refers to the gardens belonging to Carlisle House, the residence of the Bishops of that See. In it was an ancient Mulberry named after Queen Elizabeth, not one she planted, presumably, but under which she had sat (it is curious that several of this species have been associated with her in various places), for Oldys describes it as the most venerable he ever saw when he surveyed it in July, 1753, the branches propped up, yet covered with fruit, and spreading over a large space. This Surrey suburb of London was indeed famous for its Mulberries, and some now remain. A few years ago I was shown over a private garden which now forms part of what is called Vauxhall Park and tasted fruit from a White Mulberry, also some from a Cherry, which had a good crop, though growing in a smoky district. It is stated the Fig formerly flourished at Lambeth; descendants yet exist, I believe, of some planted by Cardinal Pole which attained to a great age in the grounds of the Palace.

We have an instance of one vegetable at least giving title to a play, for Broome's "Sparagus Garden" was acted in 1635, and it was suggested by a Lambeth place of amusement during Stuart times, and which had evidently been at first a plot devoted to the culture of this esculent. When it began to be grown near London the suitability of moist places, like Lambeth Marsh and Battersea, was perceived. A new impetus to it was given after the Revolution by the arrival of a large kind from Holland, when, as Evelyn tells us, growers succeeded in raising stalks weighing 4 or 5 ozs., or even more. Then the soil here proved suitable for Melons; this fact we know by a reference in the "Spectator" to a Mr. Cuffe, who sent the fruit he grew across the Thames by boat to Strand Pier; and at the same period of Anne's reign we read of Apricots being carried across, some from Lambeth probably. Tradescant there has been called the introducer of the fruit, but that is a mistake. Apricots had been planted about London in or before 1562, by whom is uncertain, though this Flemish gardener, whose name his neighbours perverted into "Tradescin," may have grown a new variety among the rarities he had in his garden at South Lambeth; its site is said to be occupied by a factory.

There is one author who states that the elder Tradescant "introduced" botany to this country; scarcely that, though both father and son deserve honour as proper horticulturists, also as travellers at no small personal risk. Upon their monument in St. Mary's, Lambeth, are some quaint lines, in one part of which the writer anticipates their re-appearance on earth to resume their labours:—

"These famous antiquarians that had been
Both gardeners to the Rose and Lily Queen,
Transplanted now themselves, sleep here, and when
Angels shall with their trumpets waken men,
And fire shall purge the world, these hence shall rise
And change this garden to a paradise."

Other memorial of them remains not in the locality, for the tenement the Tradescants occupied, called Turret House, has been pulled down. It was in this they formed a natural history museum, which young John left to Elias Ashmole. Of the plants he had growing a catalogue was printed in 1656. It appears that before he settled here Tradescant had visited most countries of Europe, North Africa, and many parts of Asia, acquiring specimens and extensive knowledge. He received the appointment of gardener (honorary perhaps) to the unfortunate Charles I. The son, who travelled chiefly in America, died in 1662. Gardeners associate them with the Spiderworts, and the younger brought several Asters from America. It has been conjectured he was the first grower of exotic Ferns, since Parkinson states he got in Virginia *Cystopteris bulbifera* and *Adiantum pedatum*. Tradescant's garden led to the formation of others in proximity not long after. When chronicling his visits to various London gardens, Gibson notices in 1691 Captain Foster's garden at Lambeth, where he had a display of Vines on walls and trelliswork; he thought probably the finest striped Holly hedge to be seen anywhere. Parkinson also had a garden of evergreens, which was remarkable for its Myrtles, Oleanders, and Yews.

Then there was the Spring Garden of Vauxhall close by, perhaps on the land attached to the ancient mansion of Faulkes or Folks Hall, and which had nothing to do with Guy Fawkes. This was the old Vauxhall Garden, partly a nursery ground and orchard, near the river, and a favourite resort during the latter half of the seventeenth century. Mincing describes it from observation, and says that it had grass or sand walks; much of it was divided into squares of 20 yards, enclosed with hedges of Gooseberries, and in the centres grew Roses, Beans, and other vegetables. How long this garden remained open we do not know, but in the time of the Georges we read of the New Spring Garden, the modern Vauxhall, which was more decidedly a place of entertainment, not in part a

nursery, though surrounded by market gardens, and which I can remember seeing built over.

It was when the popularity of Vauxhall had declined, early in the reign of William IV., that some gentlemen opened the Surrey Gardens of 15 acres, at first as a sort of botanical garden, planting a variety of exotics, and they had open air lectures on the subject of natural history; but the scheme of combining education with amusement did not take. Then they added zoology, and Mr. Cross removed his menagerie there from Exeter Change, other animals being obtained; however, miscellaneous fêtes or exhibitions soon entirely displaced science and horticulture.

Something similar, though on a smaller scale, had been tried years before by the estimable William Curtis, not far off. Strangers to Lambeth occasionally wondered at a tavern sign to be seen there of the "New Plantation." This was its origin. He took a plot of ground in 1777, and assisted by his friends, Barrington and White, he planted out every British species he could find or procure. In addition to these he had a collection of exotics used for food or medicinally, also poisonous species, and opened his garden to subscribers; but not succeeding he left, taking a larger place at Queen's Elm, Brompton. Malcolm & Co., who afterwards became so well known at Kensington, had for a time a Lambeth nursery. Then there was Phillips, an extensive grower of fruit trees for sale; and Griffins, who made a speciality of bulbs. But of all the Lambeth nurseries that of Chandler at Vauxhall is best remembered by the present generation of gardeners. He was author of an illustrated work on the Camellia, a flower to which he gave much attention and grew very successfully even in the open air of Lambeth, as it was sixty years ago or more. He enumerates eight sorts that flowered freely on a north-west wall, though apt to be nipped by early frosts. Indoors he made a great display during March and April, showing many varieties from seed. Loudon says he raised Camellia Altoni and four varieties besides, from the seed in one capsule of *C. pomponia*. He gave his name to *C. Chandleri*, also called *versicolor*, produced in 1819. On a wall of his garden he had a display every spring of *Magnolia conspicua* in bloom. At a period when the Chrysanthemum had only a trifling amount of popularity he filled several houses with Chinese sorts, though mostly of small size; and he sold a great many Cactuses and climbing Roses.—J. R. S. C.

THE CULTIVATION OF VINES UNDER GLASS.*

PASSING the historical and dealing with the more practical part of the subject, we shall be required first to fix our attention on the site or position best suited to the erection of structures in which to plant the Vines. We are justified in selecting a full south aspect for the purpose, excepting, of course, span-roofed houses, which should in all cases have their ends facing the north and south; but in reference to the character of structures most adaptable we must necessarily consider the purpose for which they are required, that is to say, whether they are to be utilised as early or late houses? Undoubtedly lean-to houses are suitable to any and all purposes, and they are to be recommended as the best for very early forcing.

For midseason and late houses, however, or for the cultivation of Grapes on a large scale, there is nothing to equal the span-roofed, as there is naturally more air and light circulating about the Vines to solidify the growth as it is being made, and a larger quantity of Grapes can be taken from a given area under these circumstances with the least amount of attention.

Before particularising the kind of borders or their position it may be interesting to first mention that to have Grapes ripe and ready for use by the middle of May, or very early in June, was at one time considered to be almost impossible with Vines that were permanently planted out. To meet these and earlier demands, Vines in pots had to be forced, and afterwards being of no further use were cast away to the rubbish heap. The system, that is from a trade point of view, appeared eminently satisfactory; but the commercial value of the Grapes so produced proved much too high for general consumption, hence the desire to further persevere in attempting to produce Grapes earlier from Vines permanently planted out, and at a minimum cost, and thus render the project more remunerative.

Whether the Vine roots should be entirely confined to borders inside the structure, or allowed the liberty to run outside as well, is a matter of great importance. It must have the cultivator's early consideration. Vines that are to be forced very early are undoubtedly better with their roots confined to inside

borders. The soil in such borders is naturally more uniform in temperature, the roots more under command, and are therefore rendered less liable to suffering a check at some critical stage of development. Inside borders for all purposes are recommended by many good growers, and with practical evidence of the excellent results obtained under these circumstances we are naturally bound to afford the matter its due weight of consideration.

To the value of inside and outside borders conjointly for mid-season and late houses we can testify, but the soil of which the outside borders are composed appears in a sweeter and fresher condition than is the case with inside borders, and hence the roots freely permeate and benefit the Vines.

Before determining the width of the borders cultivators must decide as to whether the Vines are to be forced early or whether they are to come on later in the season. For small, very early houses, where the Vine rods cannot extend beyond 10 to 12 feet, 8 to 9 feet will be wide enough for purely inside borders. Second early houses of larger dimensions, in which the Vine rods extend 15 to 16 feet, should have inside borders about the same width, but for later houses of similar dimensions 18 feet will not be too wide for borders confined to the interior of the house. Houses of still larger dimensions, and in which the Grapes are not expected to ripen until late in the season, will have ample room for the Vine roots in borders that are made about 12 feet wide inside and 9 to 10 feet wide outside.

Particulars as to the nature of the soil of which the borders are to be composed must of necessity guide the cultivator in determining their depth, some consideration also being required as to whether the Vines planted in such borders are to be forced early or allowed to come on later in the season. For example, a depth of 2 feet of soil of a light porous nature with 9 inches of drainage is quite enough for Vines planted in small houses, and that are to be forced very early; but 20 inches of heavy retentive loam will be sufficient with 12 inches of drainage. For midseason and late houses a depth of 30 inches of light soil with 12 inches of drainage will not be too much; but in using loam of a strong retentive character 24 to 26 inches will be sufficient, with at least 14 inches of drainage.

In all cases grout or concrete the bottoms of the borders, and allow a gradual slope to whatever position is found the best and most convenient of access in time of need. Drain pipes should be laid at distances of 4 feet apart across the base, along which will be conveyed the superfluous water drained from the soil above, to be carried away by the principal drain laid for the purpose at the lowest part of the border.

Cultivators generally are somewhat faddy as to the kind of compost they use for Vines, and recognising the fact of undoubted success resulting from various mixtures, it would be contrary to reason to set up any compost as an ideal one for Vines. Attention may be drawn to the following as a compost of some value, and with which we have absolute experience:—Take grass sods or turves from an old pasture cut 2 to 3 inches in thickness, and chop them in pieces of 3 to 5 inches square; to every six cartloads adding about eight barrowloads of old mortar rubbish, 2 cwt. of half-inch bones, 1 cwt. of large stick charcoal, with a similar weight of burnt stick ashes. On no account should the borders be made to their full extent at the time of planting the Vines. They should be made piecemeal, that is to say, a portion should be added as the roots require it, and they will most assuredly derive more benefit from the addition of fresh soil, just when they are ready to enter it than if the whole border were made up at once, and a width of 4 feet will be quite enough in which to plant the Vines.

Various methods of planting Vines have been adopted. Some have preferred to plant them immediately the eyes have taken root and with the growth about 12 inches in length. Others, again, have potted them, grown them to the length of 4 or 5 feet, and planted them permanently in the borders about the month of July. One-year-old Vines, however, are the most generally used, strong, well ripened and ready for planting about the second week in February, the distance apart being arranged according to circumstances. In large houses 3 feet to 3 feet 6 inches is not too much, as then the growth made by the Vines has a better chance of being opened out and allowed the full benefit of both light and air. In planting turn the roots out of the pots, and shake away all the old soil that will conveniently leave them. Make a shallow excavation, as the roots should be carefully spread out and laid their entire length as near the surface of the border as possible. Work some of the finer particles of the compost well amongst the roots, and cover the whole with more of the compost in its rougher state. Afterwards make the whole firm by treading, and the operation will be completed.

* A Paper read before a meeting of the Hesse Gardeners' Mutual Improvement Association, by Mr. J. P. LEADBETTER, gardener to A. Wilson, Esq., Tranby Croft.]

The compost of which the border is composed being naturally moist, no water will be required immediately after planting, and there will be no difficulty in getting the young Vines to break freely, provided the house is kept close, and a moist condition of the atmosphere maintained by syringing the woodwork, paths, walls, and rods.

In order to cause the young Vines to break evenly and regularly from the base to the summit the tops of the Vines should be carefully bent down or depressed, but directly the young shoots are about half an inch in length the Vine rods should be tied permanently in position. At this stage the future prospect of the Vines must be taken into consideration, and all the growths may be rubbed off the original Vine down to where the growth that is to form the leader or future rod is starting from, which as a rule will be about level with the front eave of the roof, or about 3 feet from the base of the Vine, and the shoots that are allowed to grow below this leader ought to be topped about the fifth or sixth joint.

Nothing further is needed beyond the fact of training and tying the leader up carefully to prevent its being injured in any way, and with the free use of the syringe to keep down red spider, together with a satisfactory supply of water to the roots, and at all times a free admission of air "without draught" to solidify the growth, is all that can be done until the autumn.

Young Vines usually grow strongly and require a great amount of ripening, so that if the autumn be dull and cold fire heat and air should be afforded to harden the wood, water being required in moderate quantities by the roots until growth commences the following season.

The first operation in preparing to start the Vines into growth the following season is to prune them. Cut back the new rod or leader to within 2 feet of its juncture with the original Vine, and spur back the lower shoots to within one or two eyes of their base. Seldom can we ripen young vigorous Vines so as to prevent any possibility of their bleeding from the cut parts directly growth begins; but the danger of bleeding can be prevented by putting styptic over the cut parts immediately after pruning.

If the roots have grown through the soil add another portion of about 2 feet to the border, but if the roots are not strong do not by any means make the addition. In again starting the Vines into growth keep the houses closed and syringe well for about three weeks, and do not apply fire heat unless there is very hard frost, which must necessarily be prevented from entering the houses, the Vines again being depressed to make them break evenly the whole length of the rods.

Immediately growth is started place the Vines in their proper position, and this time the leader should not be topped, but all the laterals below it should be stopped as advised the first year; as many of them will show fruit, and it may be desirable to allow two bunches to remain on each Vine, these being topped two joints beyond the fruit, all other bunches being cut off, and the shoots topped as considered advisable. Fire heat with air should be applied to solidify the growth as it is made, and water given the roots as they require it. No top-dressing of the borders has been recommended, as it would scarcely be required with borders just made, but it may be desirable to mulch the surface with horse and cow manure mixed directly the fruit is set.

With the Vines in perfect health, and other conditions rendered favourable by the judicious admission of air, there will be no need to fear the flowers setting satisfactorily, but the rods may be tapped several times during the day to insure success. High temperatures are unnecessary, but they must be regular, 55° to 60° being a good night temperature with air, and 60° to 65° by day. Stereotyped figures are absurd, and common sense must of necessity guide the cultivator, for there are many days when the sun is hot that it would be impossible to keep the temperature at the figures stated without admitting air in unlimited quantities, and thus rendering the Vines liable to a serious check. Muscats, however, should have a few degrees higher temperature to enable the ventilators to be freely opened to admit more air, which is necessary in their case.

The varieties most serviceable in early houses are Black Hamburgh and Buckland Sweetwater (white). For midseason houses, Madresfield Court (black) and Muscat of Alexandria (white) are recommended. The latter houses may also contain such varieties as Mrs. Pince, Muscat Hamburgh, Foster's Seedling, Duke of Buccleuch, and Alnwick Seedling, late houses being planted with Gros Colman, Lady Downe's, and Black Alicante. Barbarossa (Gros Guillaume) may be added to the middle list, and there are other varieties of which mention is not made, feeling certain that whatever omissions there may be, it is only such varieties as require very special treatment, and in consequence cannot be included in a list formed to convey general impressions.



WEATHER IN LONDON.—The weather during the past week has again been variable, Thursday, Friday, and Saturday being characterised by heavy showers. On Sunday the change was a remarkable one—in fact, the weather proved much more like May than March. Monday morning was somewhat foggy, but towards midday the sun came through bright and warm, while the same conditions prevailed on Tuesday and Wednesday.

— **WEATHER IN THE NORTH.**—Less rain and more sunshine mark the week ending the 24th, but some of the nights were very wet. There was an inclination to frost on the morning of the 19th, and gusty winds from the west occurred now and again. Saturday was fine, Sunday markedly so, but it rained heavily during the night, and the evening of Monday was drizzly. Tuesday morning, dull and coldish, did not give much promise of a change to drier weather, now much desired, the sowing of the Bean crop and other farm work getting into arrears from continued wet.—B. D., *S. Perthshire*.

— **THE BARRON TESTIMONIAL.**—The promoters of the testimonial to Mr. A. F. Barron met at the Hotel Windsor on Tuesday last, when it was unanimously agreed that the testimonial should take the form of a cheque for £500. Dr. Masters has been asked and has consented to make the presentation, which will take place at a lunch at the Hotel Windsor on April the 21st at two o'clock P.M.

— **CARRIAGE OF PRODUCE.**—The arrangements made by the Great Eastern Railway Company at the end of last year for the conveyance of market garden and other produce have been in operation rather more than three months, and have proved so satisfactory that the company contemplates extending the system to the whole of their agricultural stations. With a view to place producers and consumers into more direct communication than has hitherto been the case the company has compiled a list of producers in the several counties served by the line who are willing to supply the products of the farm and garden by passenger train. The list contains upwards of 600 addresses with a statement as to the different kinds of produce that can be supplied, and amongst these flowers, fruit, and vegetables are prominent.

— **GARDENERS' ROYAL BENEVOLENT INSTITUTION.**—The Wolverhampton and Staffordshire Auxiliary of the above Institution has arranged to hold a meeting at Lichfield on March 31st. The Mayor has kindly lent the Council Chamber for the occasion, and will himself preside at the meeting. Addresses will be given by the Chairman, Secretary, and members of the Committee, on the advantages and benefits of the Institution to gardeners, seedsmen, nurserymen, market gardeners, and their foremen. All who are connected with or interested in horticulture should attend on the occasion. The Auxiliary is holding a spring show in the Drill Hall, Wolverhampton, on Thursday in Easter week, when a meeting of the stewards will be held, at which it is hoped the Earl of Dartmouth will preside, and that the Countess will open the spring show. Meetings and concerts are also being held at Stafford and other towns.—G. A. BISHOP.

— **TABLE DECORATIONS.**—The very mild criticism of "On-Looker" on page 263 might have been passed without notice. I am sorry to say all of us—a large army of us at any rate—whatever be our energy, labour, self-effort, and devotion to horticulture—cannot occupy large places with historic associations surrounded with picturesque scenery. It falls to the lot of many of us to carry out large dinner table decorations, and produce abundance of flowers for cutting without the means of obtaining moss in quantity, as is the case where woods exist to an enormous extent. I am not blind to the advantage, for several purposes and arrangements, of a good supply of moss, but I wrote for the advantage of the many, not the few who are favourably situated. To purchase moss retail at 4s. per dozen bundles would mean a considerable outlay in the course of a year, that employers would not tolerate long perhaps. I do not care for these moss-bound pots. They are too formal for my fancy, and cannot be made light, easy, and graceful. Crinkled paper can be used to be very effective, without having much of the City restaurant appearance about it. I may refer to the matter again when time permits.—O. M.

— GARDENING APPOINTMENT.—Mr. W. Kemp, for five years gardener at Kirkham Abbey, Yorks, the last three in the service of the Dowager Lady St. Oswald, has been appointed to take charge of the gardens at Appleby Hall, Lincolnshire.

— CARROTS IN BELGIUM.—Belgium is a Carrot country, and no seed is used here other than beardless. The practical manipulation of the one as compared to the other is manifest to those who have to sow the seed, and those who have had to sow it with its hindrances and time-wastedness.—H. K., *Laeken*.

— VIOLET PRINCESS OF WALES.—When Mr. Henry Cannell visits the Royal Horticultural Society's meetings at Westminster he generally contrives in some way to let his friends know he is there. On Tuesday last he distributed bunches of Princess of Wales Violet as something worth bringing from his floral home. It is a fine dark single fragrant Violet, as large as some of the smaller Violas, one bloom we measured being $1\frac{1}{2}$ inch across and $1\frac{1}{2}$ deep, petals stout, well overlapping, and the flower of good shape. This Violet seems worthy of the name it bears.

— AN EFFECT OF THE HEAT.—The warm weather experienced on Sunday, following upon the heavy rain of last week, had a curious effect on some of the wood paving in Fleet Street on Monday. In one spot, near Ludgate Circus, the paving was raised into an immense "blister," as though it were being forced upwards by gas or water. Some alarm was at first created by the strange sight, especially as the "blister" was spreading over the whole road, and it was at first thought that an explosion was imminent. The paviers arrived on the spot later on, and put matters right.

— MR. KAY'S CANON HALL MUSCAT GRAPE.—I can tell Mr. Easter, Nostell Priory Gardens (page 284) that I have known the Canon Hall Muscat for many years. Very fine samples of it appeared occasionally when Chiswick was famous for fine exhibitions. I have fruited it from grafts received from Mr. Kay, and if it is not the true Canon Hall that he so successfully grows, then I have never seen it. Mr. Barron and Dr. Hogg look upon Escholata as synonymous with Muscat of Alexandria. Canon Hall, though an oval Grape, is not so much so as Muscat of Alexandria. Very round berries in considerable numbers may sometimes be seen in bunches of Canon Hall, and if dissected will be found to contain fewer seeds than the oval ones.—D. THOMSON. [Dr. Hogg's "Fruit Manual" contains the following elucidatory note:—"This Grape (Muscat of Alexandria) was called Escholata by Daniel Money, a nursery and Vine grower at Haverstock Hill, on the road to Hampstead, from his having named his home "Eschol Place," in allusion to the brook Eschol, where the Israelite spies got the large bunch of Grapes. The berries are oval, though somewhat variable, those of Canon Hall Muscat sometimes nearly or quite round."]

— THE NURSERYMEN, MARKET GARDENERS', AND GENERAL HAILSTORM INSURANCE CORPORATION, LIMITED.—The first annual general meeting of this Corporation was held on Friday, 20th March, 1896, when the Directors' report and statement of accounts were submitted. The Chairman (Mr. Harry J. Veitch) stated that 3830 shares of £5 each had been subscribed, making the subscribed capital £19,150, which was invested by the Trustees in Government and Corporation Stock. Forty-seven agents had been appointed—viz., forty-one in the United Kingdom, five in the Channel Islands, and one in the Scilly Isles. The agents were paid by commission only. Two hundred and forty-four policies had already been issued. The premiums and interest amounted to £701 17s. 9d. The claims amounted to £283 17s. 4d. for 21 oz. glass broken by hail at Harpenden. The claims were assessed the day the storm occurred, and were paid in cash within five days. This prompt settlement had brought a considerable accession of business, and proposals for insurance were coming in daily. Many insurers were availing themselves of the special advantage of being able to cover the value of the contents of their glass houses by increased insurance of their glass, an advantage offered by no other insurance company. The working expenses had been kept as low as possible. The Directors, who had met sixteen times during the year, had received no fees; 20 per cent. of formation expenses had been written off. The Directors did not recommend the payment this year of any dividend to shareholders, but suggested that the balance of all monies in hand be held in reserve to meet any claims on unexpired policies. The report was received with approval and unanimously adopted. The retiring Directors and Auditors were re-elected. A vote of thanks was given to the Manager and Secretary (Mr. A. J. Monro) and to the agents, and the meeting closed with a hearty vote of thanks to the Chairman.

— PRIMULA SNOWDON.—This is the name that has been given by Mr. W. Bull, King's Road, Chelsea, to a new variety of *Primula sinensis*. Though there are so many fine white varieties of this *Primula*, this one must be accorded a place. The flowers are large, beautifully fimbriated, of great substance, and pure white. The habit of growth and flowering is in every way satisfactory.

— THE HESSLE GARDENERS' MUTUAL IMPROVEMENT SOCIETY.—At a meeting of the above Society, held in the Parish Schoolroom, March 17th, a paper was read by Mr. A. Coult, gardener to Mrs. Willers, Woodfield House, on "Soils and Manures." The essayist described the composition of clay, loamy, sandy, and other soils, and the manner in which each should be dealt with for the different crops. Mineral, natural, chemical, and other manures were most ably entered into and discussed.—F. L. T.

— MYROBALAN PLUM.—"E. M." (page 205) does not state the nature of the soil where the above is growing. My experience of it as a hedge plant in several counties is that it is splendid for the purpose, and much quicker than Thorn. We planted it here last winter, and it made splendid growth, 3 to 4 feet, in spite of the dry summer. I hope to try it as an orchard standard. Some years ago I know it used to fruit at Audley End in Essex, where there were some fine standards of it, and for all I know may be now.—CHAS. PAGE, *Boconnoe, Cornwall*.

— WITH reference to the inquiry by "E. M." in your number of the 5th inst. as to the value of the Myrobalan Plum for hedgemaking, my experience is that if closely clipped it makes a poor thin hedge, throwing up a few strong rampant shoots each season, but making only weak growths at the sides. On these weak growths the thorns are not produced which characterise the strong shoots and which are said to make a hedge of this plant impenetrable. Possibly if allowed to grow wild the Myrobalan might form a hedge more equal to its reputation.—K. J. M.

— FRUITS AT WELBECK.—When calling a few days ago on my neighbour, Mr. Horton, the well known gardener at Welbeck, I was much struck at seeing a quarter of a mile of Apricot trees in full bloom (under glass). They were well trained healthy trees, the wall being completely covered. A Peach house 244 yards long, planted with fine healthy young trees, was also a pretty sight, and looked like carrying grand crops. Pot Vines are largely grown here for early work, and all are carrying good crops which promise to finish well. Figs are also largely and well grown, and the 1000 fine fruits swelling now show the trees to be in the pink of condition. A long lean-to house has the back wall covered with Tomato plants, on which the fruits are setting well. Long houses of Cucumbers, Melons, Potatoes, French Beans, and Asparagus are all looking remarkably well. Most of these houses are 70 or 80 yards long. Malmaisons are grown in thousands, and I noticed one span-roofed house filled with healthy plants in 32's. Altogether there are 1315 yards of glass at Welbeck, not including the Rose houses and conservatories.—T. H. CRASP.

— SUMMER STOCKS.—What a beautiful effect might be produced were a parterre garden planted with summer Stocks alone, and in all their full variety. Apart from the great variations in colour found in the flowers, and also in leafage, so far as smooth and woolly characteristics are concerned, there are dwarf or almost miniature Stocks, pyramidal, Ten-weeks, Giant ditto, and others, so that it is not difficult to make up a collection of several dozens that have some distinct features. Last year was a specially favourable one for summer Stocks, the plants blooming profusely everywhere. No doubt they like plenty of warmth; still, these plants usually thrive well, and they do repay us in their summer beauty for the absence, all too common, of those grand Brompton Stocks that once were found in every garden, but are now so rarely seen. The previous winter killed them so completely that none were left to produce seed, and it is doubtless to such frequent destruction during hard winters that the comparative absence, not only of Bromptons, but the branching biennial Queens is also due. Seed of summer Stocks may be sown early in April in a frame or in shallow boxes in a greenhouse. A very little extra warmth then suffices to promote good germination, and the stouter and sturdier the plants come the better. After being well seasoned they may be dibbled out into the open ground where required to bloom, and if care be taken in lifting from the seedbox or frame to preserve all the roots, and these are as carefully buried in the soil, growth quickly follows. It is a good plan to have a quantity of each variety in a nursery bed, so that the doubles may be transplanted with balls of soil and roots to fill places in the flower garden from whence singles have been pulled.—A. D.

— ROYAL METEOROLOGICAL SOCIETY.—At the meeting of this Society on Wednesday evening, the 18th inst., Mr. E. Mawley (President) in the chair, Mr. Frederic Gaster, F.R.Met.Soc., of the Meteorological Office, delivered a most interesting lecture on "Weather Forecasts and Storm Warnings—how they are prepared and made known," which was illustrated by numerous instruments, diagrams, and lantern slides.

— WAKEFIELD PAXTON SOCIETY.—There was a large gathering of the members at the Society's room on the 14th inst. Mr. J. G. Brown presided, and Mr. J. Thomas occupied the vice-chair. Mr. W. H. Vere, gardener to Ald. Stewart, J.P., Milnthorpe House, read an excellent and practical paper on "The Mushroom," dealing fully with the preparation of the beds, spawn, and after culture. A very animated discussion took place on the subject, over a dozen members asking questions or referring to their experience of Mushroom growing.

— STREPTOSOLEN JAMESONI.—This charming greenhouse plant deserves to be more widely known than it appears to be at present. It is quite a feature here with its drooping foliage and bright orange-coloured blossoms. Several baskets of it in the Palm house have been flowering continuously since November, and have received general admiration. The cuttings should be taken during March or early April, and be rooted in a temperature of 65°, the young plants being then potted in 60-pots in a compost of loam and leaf mould. They are subjected to cool treatment during the summer months, but must be placed in warmer quarters about October, when they will soon produce brilliant umbels of flowers. These are very effective mixed with a few Fern fronds, for decorating vases during the winter.—F. C., *Royal Gardens, Osborne.*

— WOOLTON GARDENERS' MUTUAL IMPROVEMENT SOCIETY.—The last meeting of the session was held on the 19th inst., Mr. J. Rae presiding. A discussion ensued as to the best method of treating *Cattleya citrina*. Mr. R. Todd, Woolton Wood Gardens, advised importing fresh plants every year as they did not become well established, but, on the other hand, reference was made to a plant at Allerton Priory, which had grown and flowered well for the past five years. To cultivate it successfully it requires heat whilst growing, and great care must be taken not to let a second growth start. Mr. W. Disley, the winner of the prize offered by the Society for the best essay on the "Cultivation and Forcing of Strawberries with Varieties Suitable for the District," then read his paper, which was most practical, giving thorough details as to preparation of ground, layering, planting, and kinds of structures suitable for forcing, and showing him to be thoroughly conversant with his subject. It may be mentioned that the season has been very successful, and no doubt with the activity displayed by many members of the Committee the next session will contain many attractions worthy of the high standard of the Society in the past.—R. P. R.

— GRASSENDALE AND AIGBURTH SPRING SHOW.—The Grassendale Parish Room presented a bright and attractive appearance on Saturday last on the occasion of the sixth spring show. In comparison to former shows it was far in advance, and if anything might be singled out for special mention it must be the exceptionally fine display of Hyacinths, which were as near perfection as one could wish, while Azaleas were excellent. A group of magnificent Amaryllis, not for competition, was staged by Mr. T. Johnson, gardener to G. W. Moss, Esq. So thoroughly pleased was the President (A. L. Jones, Esq.) with the show, and recognising the good work done by the Society, that he announced his intention of giving a 10-guinea silver cup for competition at the Chrysanthemum show next November. It is not my intention to go into detail with the classes, but mention ought to be made of the success of an old veteran, Mr. J. Kelly, gardener to R. Singlehurst, Esq., who took the lead for Hyacinths and Tulips, hardy Rhododendrons, three Azaleas in 8-inch pots, Palms, Cinerarias, Lily of the Valley, and table plants. Mr. J. Bounds, gardener to A. L. Jones, Esq., was successful with Orchids, stove plants in bloom, Ferns, and Roses in pots. Mr. G. Leadbetter, gardener to W. J. Davey, Esq., with six pots Hyacinths (three bulbs in a pot), greenhouse Rhododendrons, Palms, Spiræas, and pots of herbaceous plants. Mr. E. Taylor, gardener to E. Pryor, Esq., for greenhouse plants in bloom, Primulas, cut flowers, bouquets, and a hamper of plants arranged for effect. Cyclamens and forced hardy plants to Mr. T. Ankers, gardener to W. B. Bowring, Esq.; other miscellaneous classes falling to Messrs. R. Fawkes, T. Hughes, and G. Jenkins. A splendid Amaryllis won for Mr. Johnson the prize. As on a former occasion the musical attraction was great, and Mr. R. Fawkes, the energetic Secretary, deserves hearty commendation for his duties and obliging manner.—R. P. R.

— NEWCASTLE-ON-TYNE FLOWER SHOWS.—The Newcastle spring show will be held on Wednesday and Thursday, 15th and 16th April, in the Town Hall and Corn Exchange. Shows will also be held under the same auspices on July 8th, 9th, and 10th (summer), and November 18th and 19th (Chrysanthemum). Room is reserved for attractive trade exhibits.

— PENNSYLVANIA BOTANIC GARDEN.—The Botanic Garden of the University of Pennsylvania is hardly more than a year old, and consisted originally of 6 acres of very rough land. Already a little lake takes the place of what was a gravel pit; there are bog and aquatic gardens, a rock garden, a bulb garden, an Iris garden, an herbaceous garden, and a great many trees and shrubs, so that more than 3000 species are already represented. Professor J. H. Macfarlane is Director, and Mr. Alexander MacElwee the head gardener.

— A RECORD YEAR OF SUNSHINE AND RAIN.—The year 1895 will probably long be a red-letter year in meteorological annals for its amount of sunshine, which greatly exceeded the mean in nearly every district in the British Isles. In the Channel Islands the total for the year amounted to considerably over 2000 hours—in round numbers, about 250 hours in excess of the average. South-west England had a total of 1825 hours—about 230 in excess; South England (in which London is included), 1776 hours—over 200 in excess; and even North Scotland, the lowest record of all, had a total of 1083 hours. The rainfall has been proportionately small. The highest number of rainy days, 240, was reported from North Scotland, where the fall amounted to about 50 inches—3 inches less than the average. The eastern counties of England, with 168 rainy days, recorded 25 inches—nearly 2 inches less than their mean; and midland, southern, and south-western districts also experienced more than half a year of rainless days.

— THE RECENT RAINS.—Whilst all who are associated with the cultivation of the soil realise the inestimable value rendered by the recent rains, it is most odd to find persons presumably endowed with brains lamenting a wet day, just because it interferes with their pleasures or some allied pursuits. Thankful for nothing seems to be such persons' motto, for they seem quite oblivious of the fact that we have not only had relatively a wonderfully dry winter, but also a remarkably mild open one, a great weather privilege for which we cannot be too thankful. Wet days have been less than 5 per cent. since the new year began, and yet there are people who grumble when the much-needed rains fall. Gardeners and others who cultivate the land have found in these recent rains veritable godsend. They have come in most admirable time, they have not been so persistent as to hinder work materially, they have thoroughly moistened the soil without saturating it, and they have afforded to the roots of trees and shrubs, especially those newly planted, greatly needed moisture. We are very thankful for the rains, but we shall need many more such soakings. Beyond the dry winter there was the unusual long continued drought of last summer, broken by heavy rains in the early autumn, then resumed again later and for a long time. No wonder, then, that good soaking rains are both desired and welcomed. Only on heavy or clay soils have the recent falls in any way hindered sowing and planting. Rarely have we had a spring when the soil was in so good condition to receive seeds so early as this present one.—A. D.

— THE NEW SOUTH WALES FLOWER FARMING INDUSTRY.—This is by no means flourishing, because the natural resources of the colony have not been developed properly in this direction. Although the colony has been described as a floral paradise, from the abundance and luxuriance of its native and cultivated flowers, the manufacture of floral perfumes and essences is unknown, although experimental scent farms have been established in the adjoining colony of Victoria. The quantity of Eucalyptus oil annually exported from the colony is insignificant, yet, writes Mr. J. Plummer in a contemporary, the rich abundance of the trees from which it is obtained should enable the Australian trade to rival that of Algiers and California, from whence the world's supplies are principally obtained. The abundance of Citrus fruits may at some future time lead to the establishment of manufactories for the preparation of candied Citron, Orange, and Lemon peels, as well as of Lemon oils and essences. The crystallisation of Mandarin Oranges and the manufacture of Orange marmalade are also coming industries; in fact the latter has already been initiated on a limited scale. At present the chief obstacle to the development of the marmalade industry consists in the absence of the Seville Orange, which could be introduced and acclimatised without difficulty. The Olive is very sparingly cultivated, notwithstanding the fact that the soil and climate of New South Wales are identical with those of the leading Olive growing countries of Europe.

RULES FOR JUDGING.

It is very satisfactory to learn from "An Old Provincial Judge" that there is "nothing new" in the code of judging recently issued by the R.H.S. I hope neither he nor anyone else is disappointed because there is nothing new found in the code. The Committee was never invited to formulate anything new in regard to judging, but simply to codify or bring into a tangible form the various rules or traditions attached to judging. It was for that reason that the help of persons of experience in all directions was sought, not merely judges of long standing, but of exhibitors also. Thus in relation to Roses, Chrysanthemums, Dahlias, and other florists' flowers, the general rules or practices guiding judges of these were adopted, but yet to some extent put into shape or codified, so that the best rules or practices might be made public with a view to universal adoption.

A good deal, very smart, no doubt, but still not overwise, has been written about "destructive" and "constructive" criticism. When the former is applied to that which is foolish or absurd it is as valuable as is the other when used to build up the best. It is in both ways that this code has been looked at. The object was to destroy those practices that led to constant mistakes, or gave rise to discussions and complaints, and to preserve all that was best and most correct in connection with judging. Now the code is a product of both, but essentially of the latter quality. It is the product of constructive criticism especially. "An Old Provincial Judge" has no doubt often read the declaration, "I came not to call the righteous" Codes of judging are not for the old practised hand, but for the unpractised, and formulated in the hope that the acts of both may be brought into complete harmony.

Even practised hands often differ in their verdicts if based on the same long experience, and it is in the hope of avoiding such discrepancies in the future that the code has been prepared. How far its rules or suggestions may be acted upon depends entirely upon the temper in which those suggestions are approached. All that is asked that so far as is possible in human fallibility to do, every effort shall be made to respect those suggestions, and to act upon them.

With respect to the objection that no reference is made in the code to judging cottage gardens and allotments, it is right to say that such were doubtless held to be rather outside the objects in view. Whilst it would be a good thing to secure judgments on the merits of these gardens and allotments on the same basis, if possible, it is very obvious that they differ exceedingly from exhibits found on show tables.

But in the county of Surrey very much has been done by the horticultural instructors to meet, so far as that county alone is concerned, the difficulties referred to. There the judging, when conducted by the county instructors—and the same rule applies to all of the continuation school gardens—is aided by forms on which are printed all the crops usually grown on allotments and in gardens, with scales of points allotted to each according to their relative merits or values; also for fruit, flowers, neatness and good order, for excellence in cropping, especially in relation to crops being well cared for, and for the production of succession over a long season. Now, when a garden or allotment is judged figures are made in columns set apart for the purpose that, according to the scale of points allotted to each product as a maximum, show what is in the judge's mind exactly, the merits of the crop or parterre in question.

The gardens or plots are merely successively numbered, and the figures showing relative merits or points follow in succession, also in parallel columns. Thus, even when gardens or plots are a long way from each other, the figures in the columns recall at once to mind the relative merits of preceding similar crops or features, and the help in refreshing the memory is immense. In Surrey we sometimes have to judge fifty allotments, or it may be so many of gardens of diverse classes, in a day, and all have to be done on the same basis and pointed on the same order of merit.

A common rule in judging allotments, is for judges to dot down in notebooks their appraisements of the merits of crops, in each one on successive pages, not taking the crops in the same order, but just as they find them in the plots. That is a rather confusing practice, and renders referring back difficult, and is sometimes misleading. The Surrey rule compels all points to be entered on the same sheet and in parallel columns, and as every possible crop or feature is printed on the margin, nothing then can be overlooked.—A. D.

WAS "An Old Provincial Judge" fearful about losing an appointment at some show, at which he tells us he has judged so well, when he penned his peculiar note on page 257? At any rate, he expresses the hope that he will be tried again instead of "some untried though no doubt well qualified experts" by which he would seem to be haunted. This "Old Provincial Judge" tells us he knows a great deal, or, at least, as he intimates, thinks he does; in fact, he does not hesitate to announce that he knows as much as all the experts who took part in preparing the judging code put together, for he tells us there is "nothing new" in it, and that he "knew it all before." What a wonderful old man he must be, and how charmingly modest! It is certain there was not a man on that Committee who would have made any pretence to the possession of such wisdom on so many subjects; and if he had I venture to think he would have been found out.

I cannot claim to be an old provincial judge, or indeed a

"provincial" at all, or in fact "old" either, as compared with some others of my colleagues on that board—men whose experience with shows, judging, and schedule-making I had thought were equal to any that could be found until this Admirable Crichton sprung up, and let us know he was superior to them all. He knew as much about Roses, Chrysanthemums, Auriculas, Carnations, border flowers, hardy and tender fruits, vegetables, indeed everything, as did any of the specialists in those departments. He "knew it all," he says; they have told him "nothing." His capacity is equal to the capacities of nearly four dozen men in the bulk, and, therefore, it must of necessity follow that he is on his own showing the superior of any of them individually. Again, what a wonderful old man he must be, and how very modest!

What a pity it is that he has kept his phenomenal knowledge back so long. Had the Royal Horticultural Society known of this abounding latent wisdom the Committee would have been needless, as one man could have done all that was needed, and much valuable time would have been saved on the part of several gentlemen who gave it so freely in the preparation of the code. I dare venture to say that there was not one member of that Committee, however able, who did not learn something during the searching criticism to which every proposal was subjected, and went away somewhat wiser than he came. It might be that most of them found their match in knowledge and argument there, and it is somewhat of a pity that the calibre of this "Old Provincial Judge" was not tested in the same searching though courteous way.

Without the least desire to minimise the actual ability of this new critic and old judge, he must still not expect all the world to accept, without a little examination, all his claims. Let him be tested on one point which he himself supplies. He wishes to be tried again as an adjudicator somewhere or other, instead of "some untried though no doubt well qualified experts." The feeling is natural enough, and it is not to be supposed that anyone would wish to debar him from such trial; that, however, is not the point, but this—namely, can he tell us (and he ought to be able to do so, as he says he knows as much as the forty-six people whose names are printed in the code) how an "untried" judge can be an "expert?" If he can make that point clear, or, in other words, prove his own proposition, then will his claim for superior wisdom be entitled to consideration; but if he cannot, what then? Why, of course, he will not be such a wonderful old gentleman as he would have us believe. Perhaps if he is not above dictionaries, he might look into one; and if he should find that an "expert" is a person "taught by use, practice, or experience," he will then—well, only have to prove the dictionary wrong to sustain his own doctrine. We will await the result.

When this "Old Provincial Judge" has settled that little matter, he can perhaps show when and where the authors of the judging code which he patronises as being done very well, issued it with a "flourish of trumpets?" If he will read the very first page he will find that the rules are only issued as the "beginning and the basis of a code that may eventually be regarded as authoritative," and that in the meantime "the Council of the Royal Horticultural Society will be glad to receive suggestions of improvements and emendations, and a note of omissions, for the correction of future editions."

Is that a "flourish of trumpets?" a parade of superior wisdom? Is it not rather a frank and cordial invitation to all who can do so to share in the completion of a work that is intended to be as useful as it can be made? Yet here we have a judge, who tells us he knows so much, but who does not convey a solitary item of information for the public benefit. He even tells us he does not intend to "criticise." Confessedly, then, he only carps—an operation for which supreme wisdom is not generally understood to be a necessary qualification. He only wants to be "tried again," and most persons will be able to perceive that he has not hesitated in his efforts for gaining a hearing to "blow his own trumpet" rather loudly. Can he find elsewhere in the literature of gardening such a concise, yet comprehensive, digest of the several qualities to be sought for and avoided in the various products of the gardener's skill, as is found in the code in question?—ONE OF THE FORTY-SIX.

SAXIFRAGA STRACHEYI.

AT a recent meeting of the Royal Horticultural Society's Floral Committee a first-class certificate was justly awarded to the original of the engraving (fig. 50), which is a new and beautiful form of the well-known Saxifraga family. This charming plant was exhibited by Messrs. Paul & Son, Chesham, and though it has many of the characteristics of the better known varieties it has also points distinctly its own, which, as the plant becomes widely known, will not fail to appeal to lovers of hardy spring flowers. The leaves are round, greenish, and not so large as those of *Megasea crassifolia*, indeed they are somewhat insignificant in comparison with the sturdy branching racemes of large white flowers, the centres of which are of a delicate pink tint. The branching habit of the racemes renders the plant particularly attractive, as one or two flower stems are sufficient to make an effective display. Numerous as are hardy spring flowers, any addition having the merits of *Saxifraga Stracheyi* cannot fail to be appreciated and admired.

CUCUMBER GROWING.

THE cultivation of Cucumbers in a properly heated structure is not attended with very great difficulties provided the essential treatment of the plants, together with proper management of the heating arrangements and regulation of the atmospheric conditions, are regularly carried out. Before commencing their culture the structure should be thoroughly clean and sweet, the woodwork being well washed, the glass clean, and the walls limewashed.

Bottom heat is essential for raising the plants. In house culture this

any case they will lengthen, so support in time with a small stick placed to each. As the roots increase in the pots fill the remaining space with warmed light soil. Afford tepid soft water as required, and the plants will advance rapidly in the genial, moist bottom heat. The top heat must be about 70°, not falling below 65° at night. Proper atmospheric conditions may be secured by duly syringing the available spaces in the house, the floors at least being damped twice daily.

While the plants are being prepared, the beds for receiving them must be attended to. The base of the beds may consist of wood, stone, or slates resting on bearers not in contact with the pipes. Rubble some-



FIG. 50.—SAXIFRAGA STRACHEYI.

is generally secured by pipes running under a bed in which some moist material can be placed, such as cocoa-nut fibre refuse, and a favourable growing temperature secured. This may range about 75°. In raising the plants from seed procure 3-inch pots, clean and well drained with a few crocks, covered with moss or turfy fibre. Half fill with a mixture of loam, sand, and leaf soil, the latter sweet and free from worms. Previously warm the material before placing in the pots, seeing also that it is moist. Place one seed in the centre of each pot, and plunge in the warm bed, covering them with panes of glass. It is an advantage if the bed is near the light, so that the young stems do not become drawn. In

times forms a base for soil, the hot-water pipes running through it and diffusing heat among the rubble which rises through the soil. The soil ought to consist of rich turfy loam broken up small, apportioning three parts to one part of clean sweet leaf soil, and one part of decayed manure. All the soil required may be prepared and mixed at one time, but it is not requisite that the whole of it should be placed in the bed at once. Hillocks of soil may be formed 2½ to 3 feet apart, having a base of 2 feet.

When this material is thoroughly warmed through the plants can be placed in position. The soil may be made moderately firm, and the

plants are suitable in size when they have made the third rough leaf other than the simple seed leaves. The soil being moist, not much, if any, water is required at first, the regular damping of the floors, as well as syringing the plants lightly, moistening the surface soil in the same way, and wetting the walls of the structure serving to maintain a most suitable atmosphere. In dull sunless weather air will not be needed, but afford a little carefully on bright days when the temperature of the house has risen to, and is likely to continue rising above 80°. Syringe freely at closing time, which should be early, in order to appropriate a considerable amount of sun heat. This encourages a healthy vigorous growth and promotes free bearing.

The young plants should at first be confined to one stem, attaching a light stick to each plant, securing the stem to it as growth proceeds. Retain all the leaves on the stem, but rub out the lateral shoots proceeding from their base. When the growths reach the wires nip out the point of the main stem and carry two shoots from it. Stop these again when two-thirds up the wires or trellis, which will induce the production of lateral shoots. On these shoots fruit will form, and they may be stopped one joint beyond the fruit. A regular system of thinning out, stopping, and regulating so as to cover the space with bearing shoots must be adopted. Soon after the main growths are extending well on the trellis, the large leaves on the main stem below the bottom wire may be gradually cut away.

Shortly after planting and throughout the season special attention must be given to the roots. The soil in a healthy moist condition favours the production of root fibres. These as they rapidly increase appear on the surface, being attracted thither by the warmth, moisture, and soluble food within their reach. Frequent top-dressings of fresh soil are thus very beneficial, and increase the rooting power still more. Supplies may be afforded each time a network of roots appear. As the crop becomes heavy chemical manure must be mixed with the compost, thus affording what the plants need—phosphoric acid, nitrogen, and other essential elements—in an easily available form. Weak supplies of liquid manure may also be used, consisting of soot water or diluted stable drainings. Always afford liquid nourishment, whether clear water or otherwise, in a tepid state.

Good varieties of Cucumbers are numerous, and the preferences of growers differ widely, but as my remarks apply generally to the majority of the good standard varieties, I will content myself with naming Lockie's Perfection, Rochford Market, Telegraph, Cardiff Castle, and Duke of Edinburgh as exceedingly good varieties.—E. D. S.

THE JOURNAL "UP TO DATE"—COMMENTS.

"WHAT an excellent Journal!" was the exclamation which greeted the arrival of the issue for March 12th, and certainly it would be easy to say very much in its praise that would be flattering to Proprietor, Editor, and staff generally. The Journal is always fresh and vigorous, but as with trained athletes it is pleasing to the spectators to see a bracing of the muscles for special effort in the contest, so we like to see our old favourites in their best condition occasionally, just to prove that all the qualities which have helped to make success are still present in undiminished power.

There was so much to read and note in the Journal's pages that to deal with all the subjects presented would need a long commentary, but that will not be attempted, though it cannot be passed without a few remarks. First as to the illustrations which occupy the centre pages, they are two of the most beautiful examples of printing from "process" blocks I have ever seen in a gardeners' paper. In the copy that reached me these are admirably clear, but with a softness that one does not find in photographs usually, and I should question if the process blocks are not really superior in tone to the originals. For groups, views, and varied collections of objects there can be no doubt that process printing has distinct advantages, but we cannot help expressing the wish that the engravings of plants, flowers, and fruits for which the Journal has been so long celebrated will not be lost to its readers. I frequently note beautiful productions with the initials "G. S." attached, that in many cases have scarcely been surpassed in truthful yet artistic delineation by any similar work known to me.

STATESMEN AS GARDENERS.

An instructive description is given of the gardens at Highbury, and a most interesting reference to the Right Hon. J. Chamberlain. Gardeners cannot devote much time to politics; their occupation imposes too severe a strain on mind and body, and their leisure can usually be more profitably employed in some other way than in heated discussion on such topics at clubs or meetings. But Mr. Chamberlain is a true gardener at heart, proved alike by his words and deeds, and this is sufficient for all earnest members of the ancient craft. History records numberless instances of illustrious statesmen who have found healthful and agreeable recreation in their gardens, and happily we have at the present day many examples of men standing high in the social ranks who gladly devote both time and means to gardening in some form. Every such recruit or convert strengthens the forces of an important industry, which thoughtful men believe is destined to take an even more important place in the producing power of the world than hitherto. It should give courage to those who observe with regret the increasing competition amongst gardeners and the decreasing value placed on their services, as some imagine, judging by the advertisements which occasionally appear. The artistic, ornamental, or recreative

aspect of gardening will always hold an important position worthy of extension in every civilised community; but it is to the commercial side we must look for even greater advance in the future. When more gardeners become farmers, or more farmers become gardeners, as regards the broad principles of the art, there will be a beneficial improvement in the land resources. At least that is my opinion, and I know it is shared by many occupying a much higher station in life. This is one reason why we should welcome all patrons of our art who bring to bear on it the trained intellect of highly educated men, and who moreover possess the power in a hundred ways to extend its interest and usefulness, while improving the status of those engaged in it for a living.

FEATS WITH VINES.

Mr. David Thomson's contributions can always be read with pleasure and profit; it is the regret of his many fellow craftsmen that they do not see more of his productions, but no doubt, like others amongst us, he finds many demands on his time. His writing always reminds me of his conversation, and I shall always remember the first time I invaded his retreat in Dumfriesshire, though no doubt he has long since forgotten me. Drumlanrig is a grand place, and worth a long journey to see, but I was more interested in the "gardener." For years his name and his writings had been familiar to me, and in common with other young men I had grown to regard him as one of the great leaders of our calling. What more can be said than that my expectations were fully realised, and David Thomson became an actual personality, a splendid type of a thorough gardener?

But the remarks about Vines reminded me of a circumstance that occurred in my youth, and which proved what wonderful powers of recuperation the Vine possesses. A residence and some old glass houses in the suburbs of a large town were being pulled down in the spring months to make way for builders. Amongst the houses was a lean-to vinery, which had been filled for about twenty years with a freely growing Vine of the Muscat type, but I have never ascertained its name; the berries were round, the bunches small but compact, the colour when ripe a fine golden tint, and the flavour rich, musky, and sweet. The stem was about 3 inches in diameter, and it was cut down in full growth to about a foot from the ground, with the intention of destroying it. A neighbouring florist had just completed a span-roofed house for Vines, and he begged the root of the decapitated specimen alluded to. This was planted in soil that had received no preparation beyond ordinary digging. A great quantity of sap exuded for days from the cut stem, but ultimately a growth started and made rapid progress. In three years it had covered roof space of over 600 square feet, and produced heavy crops of useful sized bunches. The Vine was under my observation for nearly twelve years, and during that time brought in a money return of some hundreds of pounds. It was a small matter in Vine growing, but it has always appeared to me as one of the best illustrations of Vine vitality that I have observed.

A GOOD BEGINNING.

The "Reminiscence" by Mr. Owen Thomas deserves the most careful perusal and reflection by all young gardeners who read the Journal, and they are many. Only a few days ago I met a horticulturist who has an extensive acquaintance amongst gardeners, and he related some of Mr. Thomas's early experiences, and his most creditable efforts to advance himself in his occupation. It often happens that young men envy their older brethren who gain the "prizes" of the calling, but it is seldom realised what an amount of work has been performed, what hardships have been endured, what energy and perseverance have been needed to fit them for the honours they receive and the posts they hold. Nothing will ever enable a man to become successful in any department of horticulture who does not possess the ardent love of an enthusiast for his work, and if we start with that it helps to remove many difficulties in after life. Mr. Thomas evidently made a good beginning, and right at the bottom of the ladder too, and now he has climbed to the top we—who have seen and know his work—heartily wish him long life to enjoy the results of his labour. He says truly that "labour is rising more and more in dignity," and we also have met "many hard-working gardeners who are Nature's gentlemen," amongst whom we certainly include the writer of the reminiscence.

There is much more I should have liked to comment on. Mr. Barnes' notes on Malmaison Carnations are suggestive. Mr. Iggulden's remarks on open-air Tomatoes teem with useful hints. Mr. Strugnell's chapter on "Spring Salads," Mr. Abbey's "Garden Pests," and other writers and subjects furnish ample themes; but my letter is already long enough to tax the patience of the Editor, and if it seems somewhat eulogistic—well, the fault or the credit is his for providing such an abundant and varied store.—A TRAVELLER.

I WANT to say that I think the Highbury number of the Journal a record issue. It is thoroughly characteristic of itself, embracing all subjects, times, and things of our craft. The Highbury article, rightly and deservedly, dominates the whole. It is done by the practised hand of the skilled workman, dictated by the heart of a whole-souled man, and therefore the case is comprehensively, fairly, generously put. The leading article, the first in the number, shows a grasp of the position of horticulture in all its present day perplexing phases, but "A Worker" looks on them with cheerful optimism, and rightly, too. "Episodes in Vine Growing," by our old friend David Thomson, I thoroughly enjoyed; more, I fear, because of its Old-World flavour than for its practical information, which is, as usual with him, always excellent. "Single-handed," by

"G. H. H.," and "A Reminiscence," by Owen Thomas, are two articles specially characteristic of the Journal, and only to be found in that paper, full of instruction and encouragement for the young men and the lowlier workers in our profession. They will cheer our brethren much. The weekly notes sum up everything notable; I always turn to them first.

"Gentle Spring," by "The Missus." I take off my hat, and reverently bow to the gentle writer. The poetic spirit, the literary grace, the acute and sympathetic observation made of all natural objects shown in that article charmed me much, for though penetrated with much earthly leaven, I am thankful to say that I can appreciate higher things. Pray thank "The Missus." A truly practical paper that on "Hardy Fruits" by "A British Gardener," as also Mr. N. F. Barnes on "Malmaison Carnation Growing," and W. Iggulden's on "Open Air Tomato Growing." Mr. Iggulden has a right to speak on the subject; it is one that he has completely made his own. Very glad was I to see W. Strugnell once more, and upon a subject which more perplexes the kitchen gardener than does any other—"Spring Salads." Mr. C. Foster on "Useful Peas" has one or two very good ideas in his article.

The Rose and Chrysanthemum notes, always written by those who know, are weekly a strong feature of the Journal, and in this number that feature is stronger than usual. Our ubiquitous friend, "A. D.," has one of his useful and practical articles on "Early Potatoes," full of good suggestions and timely warnings. None better fitted to give these than he. "O. M." on "Table Decorations," will help to satisfy the anxieties of some of the many gardeners who are often perplexed to carry out their table dressings to their own and their employers' satisfaction. Very glad also was I to see Mr. Abbey once more. Dear me, how many years is it that he has been usefully and learnedly instructing us in some of the difficult and abstruse questions which the gardener has to face. I particularly want to thank Mr. Iggulden for calling our attention to the "Three Useful Primers." They are just the small works I had been on the look out for some time for a special purpose; but, please look at the last three lines of his article, and then let me ask where is the Prize Essay written for the Fruiterers' Company by our Mr. Wright? Is not that Primer on fruit enough? The Society notes and replies to correspondents I must pass over, full of information as they are. This will help to show that I am satisfied with the Highbury number of the *Journal of Horticulture*, I think.—P. H. N.

It was, I think, a happy thought which provided the descriptive article on Mr. Chamberlain's home and garden. When the eye of the nation is drawn to those who steer the ship of State through troubled waters, it is more than interesting to follow our pilots from their public duties to their private pleasures, more because these influences have probably farther reaching results than appears at first sight. But politics enter not into the field of horticulture, whatever influence the latter may have upon the former, hence it is sufficient in following the descriptive guide through the floral treasures of Highbury to know and to feel that "the master" at home is a gardener in the fullest sense of the word. This article has cleared from my mind, as it has doubtless from others, that dim haze through which was seen the prominent proprietor as a great orchidist solely. That such is the case, and more also, it is gratifying to note and to know.

"The Horticultural Outlook" (page 221) looks very well on paper. It is a vision influenced, as all outlooks are, by individual observation. I will but emphasise "A Worker's" remarks on British industry of the future by quoting the answer to a question in Parliament by Colonel Russell. Mr. Powell Williams in reply said, "That about 5 tons of dried vegetables of a description and quality not obtainable in the United Kingdom was purchased from Germany for the Ashanti Expedition, the total value being about £500." I conclude that the day of desiccation for British vegetables is not far distant.

Mr. David Thomson's article on Grape growing (p. 222) is weighted with the prestige of a name we may truly call noble in the annals of the subject. Good Grape growing must ever possess a fascination to good gardeners, irrespective of market valuations. With all due allowance for skill in other phases of fruit culture, the perfectly finished bunch of Grapes on an employer's table is a tower of strength to the producer. It is a matter for regret to find that in some establishments a custom is in vogue of dissecting (cutting up) the bunch before sending to table—a custom which should receive unqualified condemnation.

The royal gardener's reminiscence (page 236) contains much that is cheering, and the "Single-handed" article by "G. H. H.," much that is charitable. It speaks much, I think, for the broad and liberal spirit of latter-day horticultural literature that all workers are included. Many of the fraternity, and of these all sorts and conditions of gardeners, find themselves isolated by circumstances—deprived of that communion of fellowship which is so good and so helpful. To such how gratifying it is to find by the medium of the *Journal of Horticulture* that they are still in touch with a work-a-day world; even, maybe, with far-scattered friends of their youth. I find it so, and venture to think that others do the same.

"A. D.'s" practical and pertinent remarks on early Potatoes (page 241) induce me to ask the question, Is true stock of the old dwarf-top Ashleaf still to be had? For several years I endeavoured to procure it from local seedsmen, to be invariably disappointed. As yet we have not, by selection or other means, obtained any advance in hardness of Potatoes, perhaps never shall, though I would not like to be too sure of that. Anyway, given the same quality of precocity in this section, an especially

dwarf variety provides greater facility in protective measures against untimely frosts.

Apropos of Mr. Abbey's first instalments of "Garden Pests and Antidotes" (page 242), I was once asked what was momentarily taken to be a very foolish question—viz., "Had I ever heard a slug grazing?" "No! of course not, who ever had or ever could?" "Well, would I mind trying the experiment on some warm, moist night by adopting the Red Indians' method of catching sound—viz., place the ear to the ground level?" This was done in the neighbourhood of some newly planted Lettuces, with the result that the rasping sound of a huge fat fellow's mandibles was distinctly heard as a succulent leaf was absorbed.

As I belong to a little section of Chrysanthemum lovers someway removed from the brilliant yet critical coterie who adorn this section, may I be permitted to express, what I know to be, that little section's unanimous feeling of approval coupled with gratitude to Mr. Molyneux for his recent analysis? Not less do we think that the recently published portrait is but honour to whom honour is due.

Roses, also, share our love and care, and we have much to be thankful for in the way our tastes are catered for in these pages. "H. D.'s" notes, concluding on page 239, have been both entertaining and instructive. There is, too, gratification afforded in finding many of the older varieties still so bravely holding their own, and as duly appreciated by the writer (of those notes) on their merits.—SAYNOR.

NITROGENOUS MANURE FOR FRUIT TREES.

"BRITISH GARDENER" (page 233) directs attention to the manurial requirements of orchard and other fruit trees, and quotes a scientific authority who condemns for that purpose the use of "nitrate of soda" and "sulphate of ammonia." "British Gardener's" own conclusions on the use of purely nitrogenous manures on the foliage and the consequent reaction on the fruit up to a certain point are sound and pertinent to the subject, opening out a profitable field for discussion, yet there can be no doubt that if these nitrogenous manures be applied to young and vigorous trees or to those situated in a bad ripening position they would do more harm than good. Of course a practical man of "British Gardener's" calibre needs no reminder of so simple a fact, but to the general cultivator the word manure is only a concrete term embodying an adjunct to other cultural details. Many gardeners even yet pin their faith to farmyard manure, caring little for what in the abstract it may be composed of so long as it apparently benefits the tree or crop. We use the word apparently advisedly, because the effect of nitrogenous manures being stimulating to leaf and growth is more easily observed than are effects resulting from the other plant food elements—viz., "phosphates" and "potash." Chemical manures, broadly speaking, owe their value to a due proportion in a soluble form of the three combined elements of nitrogen, phosphate, and potash.

During active growth nitrogen is largely required in the formation of new cell contents—viz., the protoplasm, which here may be termed the source of life so far as its increase in size is concerned. The functions of the phosphates within the plant's economy may be termed that of carriers of the elaborated sap to those parts of the plant where it may be needed in the formation of reserve stores, such as the seed, fruit, and tubers. The best economic example of the function of phosphates is shown by their application by the farmer to the Turnip and similar crops, which, being essentially a reserve store, experience has proved that phosphate above all others is the element needed for full development. At the same time it must not be overlooked that a due proportion of nitrogen and potash are also necessary, though the two latter elements standing alone would not produce in any sense a paying crop of Turnips.

Coming now to the function of potash in the plant's economy, recent experiments by high and reliable authorities have proved that although nitrogen and phosphates were present the absence of potash resulted in miserable growth, or no attempt to grow by the formation of buds, and consequently no ramification of branches; therefore, if no leaf buds—flower buds being leaf buds differentiated—the production of fruit becomes an impossibility. As further showing the inter-relationship of the three elements and their manner of action, the following excerpt from a pamphlet on the subject by Professor Paul Wagner will show conclusively that any of the above three elements not being present in due proportions the full value of any single element is not obtained. "If potash is wanting in the soil then the phosphoric acid cannot act, or if nitrogen is not present in sufficient quantity then neither the potash nor the phosphoric acid become active; therefore care has to be taken that not only a foundation of phosphoric acid is at the disposal of the plant; care has further to be taken in order to stimulate the development of the plant, that in addition to this foundation there is also present a sufficient quantity of readily soluble phosphoric acid in the form of phosphates; and yet still greater care has to be taken that each different plant is supplied according to its requirements with the necessary quantity of readily assimilable potash and easily available nitrogen."

How far this phase of the subject coincides with "British Gardener's" ideas it rests with himself to state, but there can scarcely be two opinions that in consequence of the necessary attention to the requirements of fruit trees in the way of due nourishment not being met, there is abundant room for improvement in the quality of the fruit produced. Another phase of the question is that trees badly nourished are more at the mercy of the vicissitudes of the weather, fungoid and insect pests, particularly that of red spider, which in thousands of cases does more injury to their fruit-bearing capabilities than all the rest of the ills which fruit trees are heir to. It must, however, be evident that although

nitrogenous manures are of great importance, they do not alone entirely meet the requirements of the case.

Although within the last two or three years several cases have come under my own observation where gardeners are becoming impressed with the importance of this subject as to bring it within their yearly routine work, the fact remains that the economical aspect of plant foods is probably the least appreciated subject, because in the abstract it is also the least understood of any ordinary garden operation. Therefore, "British Gardener's" wish for discussion on the matter will do great service by emphasising the need of a more detailed acquaintance with it.—AZOTA.



THE LATE GEORGE PRINCE—A LESSON TO LOSERS.

I SHOULD like to add my regrets to those of "D., Deal," and many others as to the loss we have all sustained, who love the Rose, by the death of George Prince. It is true that ever since that accident he has never been the same man as before; but a brain injury, which so often leaves the sufferer disagreeable, seemed to have had very little effect on the genial gentle temperament of our departed friend.

Well do I remember, soon after the determination of the National Rose Society that Hybrid Teas should no longer be exhibited as Teas, judging the class for twenty-four Teas. There was a Comtesse de Nadailac there that stamped the stand as coming from the champion grower of that glorious Rose. Alas! there was also included in the twenty-four a Grace Darling. The stand simply had no other approaching it in merit; but I turned to my fellow Judge and pointed out that her "Grace," had no business there; we therefore had only one course to adopt, and so, with the greatest regret, we disqualified what I considered the most splendid twenty-four Roses in the exhibition.

Mr. Prince was at the show, and accepted the decision without the slightest ruffling of spirit that was perceptible to myself, and I was with him frequently during the rest of that day. I could not help feeling here was an instance of the character of the man, and that he was an example of the truth of Solomon's words, that "he who ruleth his spirit is better than he that taketh a city." It was a lesson to see him, for to us maniacs it requires something more than human power to lose gracefully. This George Prince did in the highest sense of the word. To my fellow Judge and myself it was no small satisfaction to award the silver medal for the best Tea bloom in the show to the Comtesse.

I like the idea of a Prince Memorial prize, to which certainly I should wish to add my mite. With such a name, it can only be awarded in the Tea section. I hope it may be carried out, and we should then have a continual memorial of one whom all who knew must have sincerely esteemed. Personally, he was one of my Rose friends whom it was my greatest pleasure to meet.

Our friend "D., Deal," writes of his "introduction of the seedling Briar as a stock." Though our friend who has passed away brought its value before the rosarian public, it had certainly been used long before, as nearly fifty years ago old Tommy Cole of the Rosery, Wellon, near Bath, mentioned it to me, saying, "If you want to get rid of suckers sow the Briar seeds and bud below the radicle."—Y. B. A. Z.

MR. MACHIN'S ROSES.

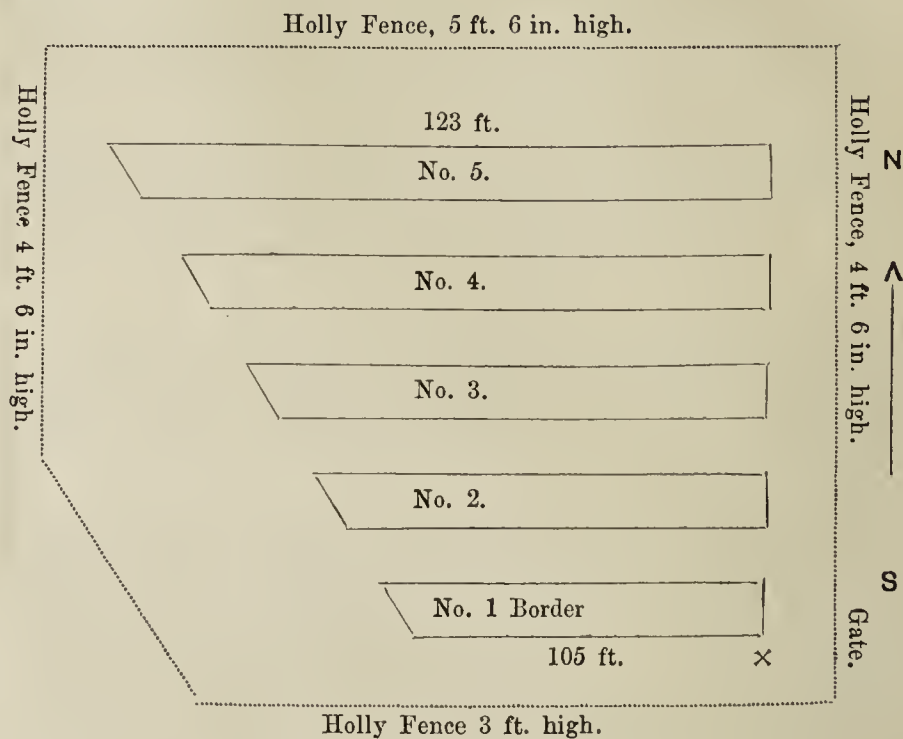
I HAVE planted more than 10,000 stocks for budding on this season. I have some 10 000 Roses (cut-backs) of exhibition varieties, also about the same number of dormants on Manetti, Seedling Briar, Polyantha, and half-standards, and so I cannot claim to give my undivided attention to garden Roses. Amongst the latter I am perhaps more fond of the Polyanthas than any other. A verse of poetry by Mrs. Hemans always makes me think of one of my favourite Polyantha Roses, Anna Maria de Montravel. It runs thus:—

"How much of memory dwells amidst thy bloom
Rose! ever bearing beauty for thy dower!
The bridal day—the festival—the tomb—
Thou hast thy part in each, thou stateliest flower!"

Anna Maria de Montravel is certainly a Rose that can take "its part in each," and not be misplaced, and it is not the only one of its class that can do so. I am sending a few notes of the names of the garden Roses I grow. My memory may be a little rusty, but I live amongst my Roses, so that my rosarium is fairly pictured in my mind.

Last November I replanted my five borders in the old drying ground. They run east and west, are from 123 to 105 feet long and about 5 feet wide, with grass walks between them about 4 feet 6 inches wide. There is a high Holly fence about 5 feet 6 inches high running along the north side of the drying ground, which is bounded on the other three sides also by Holly fences from 3 to 4 feet 6 inches high, the one on the south side next the stable yard being the lowest. On the west side of the borders beyond the fence is a plantation of high trees, on the north an orchard, and on the east the kitchen garden wall, staging shed, &c. This is my ideal spot for Roses, and I wish I had more like it. If I could afford it I should grow nearly all of my Roses in borders 5 feet wide with grass walks in between. The soil in the drying ground is good loam, with clay subsoil, and drainage all that could be desired.

The diagram (which is, of course, not to scale) will show the arrangement of the borders and planting.



PLANTS IN THE BORDERS.

No. 1 (plants, dwarfs).—96, Red Pet (China); 12, Golden Fairy (Rosa Polyantha), running east to west; 18, Princesse de Sagan (T.); 51, Dr. Grill (T.); 24, Gloire de Polyantha; 27, Crested Moss; 9, Homère (T.); 10, Marquis of Salisbury (H.T.).

No. 2 (dwarfs).—66, Perle d'Or (R.P.); 63, Mignonette (R.P.); 18, Paquerette (R.P.); 3, Rosa Indica (Miss Lowe's variety, C.); 106, Madame P. Ducher (H.T.).

No. 3 (dwarfs).—102, Anna Maria de Montravel (R.P.); 75, Ma Capucine; 88, Cecille Brunner (R.P.).

No. 4 (dwarfs).—102, Rosa rubrifolia; 12, The Pet; 15, Camoens (H.T.); 24, Grand Duc Adolphe de Luxembourg; 21, Laurette Messimy (C.); 94, Gustave Regis (H.T.).

No. 5.—Standards and half-standards of Her Majesty, La France, Souvenir de S. A. Prince (T.); Catherine Mermet (T.); and Caroline Testout (H.T.). A row of standards running down the centre of the border and one row of half-standards on each side.

N.B.—In planting this drying ground an eye was given to contrast of bloom or foliage or both.

Inside the garden I grow a good many garden Roses, including "Rosa Mundi," Maiden's Blush, Ruga, Madame Plantier, Damask, Coupe d'Hébé, Monthly Chinias, Common Mosses, Rugosas (alba and rubra), Persian Yellow, Harrisoni, White Bath (Moss), Lucida, Fairy Roses, and many others (the names of some I do not know).

I grow some good Roses of the Dijon family on walls, also such varieties as W. A. Richardson, Eève d'Or, Fortune's Yellow, L'Idéal (one of my greatest favourites), Climbing Niphetos, and Maréchal Niel. The last named I cannot "do" well out of doors, and W. A. Richardson does better facing east than south. I should grow many more climbing varieties had I large walls, arches, or pillars to cover.

On a special quarter of my rosarium (in the field to the north of the gardens), devoted more or less to garden Roses, I grow the following varieties as dwarfs:—36, Rosa Pomifera; 5, Clothilde Soupert (R.P.); 19, Beauté Inconstant; 24, Bardou Job (H.T.); 92, L'Idéal. Also a few plants each of Fortune's Yellow, Solfaterre, Paquerette, Coupe d'Hébé, Crimson Globe, Little Dot, Alba Simplex, Madame Allegatière, Marie Leonida, De Meaux, Austrian Yellow, Carolina, Austrian Copper, Marie Pavie, Gloire de Moussueses, Celina, Janet's Pride (Sweet Briar), Georges Pernet, Zenobia (Moss), Salet, Baron de Wassenaer, The Green Rose, Angelique Quetier, Lanei, Perpetual White, White Bath, Kamschatka, Madame C. F. Worth, Madame George Bruant, Alfred de Dalmas, and many others (including varieties of recent introduction, such as Duke of York, Jean André, and Clara Pfitzer. On the boarded fence at the top of my rosarium (i.e., at the north end) I grow Polyantha Simplex, Celestial (a Rose I am very fond of), Aimée Vibert, Lucida, Lucida Plena, &c. I have a quarter of dormant buds on the seedling Briar, containing such varieties as Golden Fairy, Aimée Vibert, Gustave Regis, Madame Pernet Ducher, Crimson Rambler, R. Indica (Lowe's), Celestial, Paul's Single White, Marquis of Salisbury, Marie Pavie, Red Pet, China, Bennett's Seedling, Macrantha, Cecile Brunner. On the Polyantha stock I have Bardou Job and a few more.

I grow the following on standards and half-standards:—Beauté Inconstant (T.), Papa Gontier, L'Idéal (lovely), Mdm. Pernet Ducher (H.T., lovely in the bud); Mdm. Pierre Cochet, Golden Gate, Laurette Messimy (lovely), Bardou Job, Camoens (does well), Gustave Regis (H.T.), W. A. Richardson, Crimson Rambler, Homère (T.), and others.

On the pillars and over the arches of the Rose arbour, a picture of which once appeared in the *Journal of Horticulture*, I grow Macrantha, Turner's Crimson Rambler, Paul's Single White, Thoresbyana, Coupe d'Hébé, Félicité Perpetue, Ruga, and another or two. The borders immediately round about the arbour are all planted with common Monthly China (dwarfs). If Jack Frost is as merciful as he has been

up to the present time the Roses here will probably do their part towards making a feast for the eyes during the summer months.

As I have written some of these notes off-hand from memory I may have forgotten to mention several varieties that I grow. Some of the garden Roses named I have grown for several years and have tested thoroughly, and those I think all must admire are the following:—L'Idéal, W. A. Richardson, Macrantha, Bardou Job, Paul's Single White, Perle d'Or, Paquerette, Gloire de Polyantha, The Pet, M. Capucine, Mignonette, Cecille Brunner, Laurette Messimy, Red Pet, Austrian Yellow, Camoens, M^{me}. Pernet Ducher, Gustave Regis, and Crimson Rambler.

When one who knows the above varieties thinks of their colours, it makes one long to see them bloom once more? I do, and I feel more than ever ready to shout, "Floreat Regina Florum."—H. V. M.

[The above notes were obligingly written in reply to a correspondent who desired information on the subject. The narrative indicates a wonderful memory and great love for the Rose by the owner of this charming enclosure, which is overlooked from the window of his bedroom at the point marked by the x. We thank Mr. Machin for his interesting communication.]

THE ROSARIANS OF FRANCE.

WE hear so very little of the great French rosarians, either of the present or of the past, of such men as Lacharme, Guillot, Margottin, Verdier, Ducher, and Nabonnand, that anything is interesting which seems to bring them for the moment nearer to ourselves. For what we know of these we have hitherto been chiefly indebted to Mr. Wm. Paul of Waltham in his "Rose Garden" and other publications, and the Rev. H. H. D'Ombraire, who on the death of M. Guillot, published a most interesting tribute to the greatness of his memory in the *Journal of Horticulture*.

But I have received this week a communication from Mr. Cranston of Hereford, which may be regarded as a valuable contribution in this special direction. Referring to one of my articles he says, "I wish you had said a little more regarding certain of the great French raisers, and especially Lacharme, whom I cannot but regard as the champion of them all, having sent out probably more Roses of the highest merit and distinctiveness than any other raiser. Margottin Père stands, in my opinion, next to Lacharme, and Guillot and M. Ducher follow."

"Speaking of Lacharme, who is now no more, I spent one of the most enjoyable days of my life with him, rambling through his Rose grounds at Lyons some years ago. Thousands of seedlings were being proved, which by a novice would have been considered superb; but nearly the whole of them, Lacharme informed me, would ultimately be destroyed, with the exception of the *élite* or cream of these, possibly half a dozen, which would go into commerce. I do not know that M. Lacharme ever sent out an indifferent Rose."

"After spending the whole day with my friend Mr. George Paul of Cheshunt, who had accompanied me to Lyons, we were invited to lunch the next day at Lacharme's house, to taste some wines of his own production, for he had vineyards as well as Rose gardens. I remember that we pronounced his 'La Rose' claret as superb in colour and quality as his Charles Lefebvre Rose."

In the elaborate work to which I have referred, Mr. Wm. Paul records that a certain French rosarian, of the first distinction as a raiser, declined on one occasion to show him any of his finest seedlings, because he was accompanied by a French cultivator. He let him see them afterwards, with this explanation.—DAVID R. WILLIAMSON.

GARDEN ROSES.

I HAVE discovered on many occasions, Mr. Editor, that there is at least one lynx-eyed individual connected with the *Journal of Horticulture*. I find there is also a critical and trusty rosarian who eagerly scans the Rose column. This recent enlightenment has led me to seriously think of getting a type-writer, for it is so much easier to detect an error when it appears in "printed" form than in the straggling characters of a scribbler's scrawl. That little Irishman's weakness of putting the cart before the horse must for the future be banished from Rose lore, for the Rev. David R. Williamson is on the trail. I must frankly acknowledge that he has "tripped" me up in regard to those two beauties of the Rose world, Grace Darling and Madame Lambard. I thoroughly agree with all my critic says about their manners and customs on page 258. In the quotation Mr. Williamson gives from my previous note on Teas, I must ask him to substitute the word "latter" for former, and thus find the meaning I intended to convey. I noticed the error when it appeared in print, but thought the well known constancy of Grace Darling, in the matter of colour, would prevent anyone from being led astray by my description.

How fortunate it is that opinions differ greatly on almost every conceivable subject; were it not so, I fear our lives would be spent in a strangely monotonous way. It is this thought that comforts me when I find Mr. Williamson so sceptical as to the appropriateness of the true "red Gloire" in relation to Reine Marie Henriette. True, it is not a Rose that flowers so profusely and persistently under all sorts of conditions as does the ancient Gloire de Dijon; but when planted in suitable positions and given the right treatment, "Henriette" in the early summer months makes quite as imposing a display, and to my mind half-opened buds greatly resemble in form those of Gloire de Dijon. In this stage, too, the crimson or deep carmine colour of the flowers is seen to advantage, and whenever I cut blooms answering to this description from a large tree we have of this variety I mentally exclaim, "How beautiful!" and at the present moment I think such flowers are quite worthy to represent the Gloire de Dijon.

I fear that Mr. Williamson's subsequent remarks have considerably damaged his assertion that "Perle des Jardins, unless in what may be termed perpetuity, cannot be regarded as a rival of Maréchal Niel," for he admits that it is better adapted for growing successfully in the open air. Now, I maintain that in selecting garden Roses, when a decision has to be made between two varieties, the one that succeeds the better in the open air should have the preference, even though the other possesses a slight advantage in form. Perle des Jardins also more often has the beautiful golden colour, so much admired, than does Maréchal Niel. This, I think, more than counterbalances the drawback of the few "divided" flowers Perle des Jardins produces. To sum up, I make out that Maréchal Niel has a slight advantage on two points—



FIG. 51.—RHODODENDRON HIRSUTUM.

viz., form and perfume, while Perle des Jardins scores in the matter of hardiness, perpetuity, and colour.

I cannot refrain from admiring the grand tribute paid by my critic to the charms of the Hybrid Teas. In a few pithy words he has given them their just due in a manner that can only be imparted by the touches of a master's pen.—H. D.

RHODODENDRON HIRSUTUM.

FROM "Southerner" has come a flowering spray of this charming plant, with a request for information as to its utility and natural habitat. Taking the latter point first, we may say that *R. hirsutum*, frequently known as the Alpine Rose, is a native of Southern Europe, whence it was introduced into this country about the year 1856. As regards its utility anyone who has grown it will speak very highly, especially, perhaps, for positions on the rockwork. There, in a suitable soil and situation, it thrives most satisfactorily and produces very large numbers of bright red flowers, which are certain to elicit admiration. In height the plant usually attains to about 18 inches, and so places can easily be found for a plant or two in rockeries of any extent. Our correspondent must have his plant in a somewhat sheltered spot, as though its flowering season is rather elastic, it does not usually bloom so early as March. *R. hirsutum*, depicted by the woodcut (fig. 51), is worthy of much more attention than it is accorded at present, as it is a plant of really exceptional beauty.

ROYAL HORTICULTURAL SOCIETY.

DRILL HALL, MARCH 24TH.

THE Drill Hall presented a very gay appearance on Tuesday last, when the Committees of the Royal Horticultural Society met. The number of exhibits was very great, and the quality, broadly speaking, left little to be desired. For the first time this season the members of the Narcissus Committee were brought together, but their duties could not be termed heavy, as there were only four exhibits staged. The Floral and the Orchid Committees were much busier, and many magnificent flowers were placed before both of them. The display of Orchids, occupying almost the whole of one table, was a singularly beautiful one, and comprised almost all the forms at present in bloom. The Fruit Committee was not very much pressed, and got over its duties with pleasing expedition.

FRUIT COMMITTEE.—Present: Dr. Hogg (in the chair); with Rev. W. Wilks, T. F. Rivers, G. Bunyard, J. Cheal, A. F. Barron, G. W. Cummins, P. C. M. Veitch, T. J. Saltmarsh, G. Pope, G. Norman, F. Q. Lane, J. Smith, G. Sage, G. Wythes, A. J. Laing, C. Herrin, W. Pope, A. Dean, and J. Wright. It was a source of pleasure to the members to see the originator of this Committee (Dr. Hogg) able to attend again and to preside on the occasion.

The examples submitted for examination were few, as they necessarily must be at this period of the year. The most important contribution from a cultural point of view was a collection of salads, by Mr. G. Wythes, gardener to Earl Percy. It appeared to include most kinds of salading in season in some thirty varieties, and a silver Banksian medal was awarded. Mr. Wythes also sent excellent dishes of Asparagus and Seakale (vote of thanks) as well as small, close white beads of Veitch's Maincrop Broccoli, and the variety was referred for trial at Chiswick.

Mr. W. Troughton sent a dish of the old culinary Apple Scotch Bridget, the large angular fruits not often being seen in the South. It is a useful culinary Apple, much grown in the neighbourhood of Lancaster.

Messrs. Jarman & Co., Chard, sent a dish of Apples named Whiteway's Wimple Wonder. Some experts on the Committee considered it to be Grange's Pearmain, and they well agreed with the description of it in Dr. Hogg's "Fruit Manual." The Apple is there said to have been raised by Mr. James Grange, a market gardener at Kingsland, Middlesex. He was also a fruiterer in Covent Garden on the premises now occupied by Mr. James Webber. Mr. Grange died in 1829.

Mr. Rivers sent a dish of Wagener Apple, a medium-sized, firm, waxy-looking fruit, with a tender flesh and pleasant flavour. The fruit is yellow flushed with crimson, and attractive in appearance. It is said to be of superior quality in its native country, America. Mr. W. Bull, Ranesden, Essex, sent a small seedling Apple, Sunset, perhaps in reference to its rather bright colour. On the fruit being cut one of the members compared its flavour to Cucumber; but another thought that scarcely did it justice, as it also tasted of tallow candle. There was no dissent, and the sunset ended.

Some useful bottles for preserving fruit were sent by Mr. G. V. de Lucca, 6, Long Lane, Aldersgate Street. This particular form is known as the "patent self-closing preserving bottle," and is good. The samples exhibited (some of them containing excellent fruit preserved in pure water and in syrup) were pint bottles of clear glass. They are used as follows:—The fruits are gathered dry and placed in the bottles up to the base of the neck, either pure water or syrup is then poured in till the fruit is covered; but the liquid not reaching within somewhat less than an inch of the top of the neck. The thin metal cap, with its indiarubber ring, is then pressed down, and a portable steel spring clipped across it for securing it in position during the process of boiling. The bottles are placed in a pan of cold water, which is boiled and kept boiling for fifteen minutes, then taken off the fire to cool. When cold the spring is removed, and the caps are as firm as if glued down. When the fruit is wanted for use the cap is pierced with a darning needle, and then easily removed. The contrivance appears simple and effectual, while the caps are said to be as cheap or cheaper than corks. A large bronze medal was awarded.

FLORAL COMMITTEE.—Present: W. Marshall, Esq. (in the chair); with Messrs. J. Fraser, J. Laing, H. B. May, H. Herbst, C. T. Druery, R. Dean, H. Cannell, J. Hudson, J. F. McLeod, C. J. Salter, W. Bain, R. M. Hogg, J. D. Pawle, C. E. Shea, H. J. Jones, E. Beckett, T. Peed, J. Walker, H. Turner, G. Paul, G. Gordon, J. Jennings, J. Fraser, and C. Jeffries.

A very fine display of Cinerarias came from Messrs. Jas. Carter and Co., Holborn. The compact nature of the plants gave evidence of good culture, while the variety in colour left little to be desired (silver Flora medal). Messrs. J. Peed & Sons, Norwood, were represented by a pleasing group of flowering and foliage plants, in which was noticed Hydrangeas, Cypridiums, Odontoglossums, Ericas, with Caladiums, Dracaenas, Palms, and Ferns (silver Flora medal). The group staged by Messrs. W. Cutbush & Son, Highgate, was also worthy of praise, as Heaths, Clivias, Boronias, Azaleas, Carnations, and Palms were shown in a high state of excellence (silver Banksian medal).

The Rev. G. H. Engleheart sent a pleasing little collection of seedling Narcissi—hybrids of Narcissus triandrus, the modest blooms of which were exceedingly attractive. Mr. T. S. Ware, Tottenham, showed a large collection of Daffodils with Fritillaria pudica, Trillium grandiflorum,

Muscari botryoides alba, Anemone appenina, Primula denticulata, Doronicum austriacum, Iris stylosa marginata, and others (silver Flora medal).

Amaryllis and alpine plants were well shown by Messrs. Paul & Son, Cheshunt. Amongst the latter were Iberis saxatile, Saxifraga Mayli, Hepaticas triloba alba, angulosa, triloba Barlowi, and triloba cœrulea plena, Aubrietia aurea variegata, Arabis lucida, and Aucubas japonica splendens and japonica viridis nana (bronze Banksian medal). Messrs. R. Wallace & Co., Colchester, sent blooms of Iris orbioides, Fritillaria pudica, and Erythronium Hartwegi. Plants of Nidularium Innocenti striatum came from Mr. W. Bull, Chelsea, who also staged a group of Imantophyllum miniatum, the characteristics of which were well-grown plants and large trusses of bloom. Mr. W. Slogrove, gardener to Mrs. Crawford, Reigate, sent two seedling Clivias, Mrs. Crawford and Salmon Queen.

Messrs. T. Cripps & Son, Tunbridge Wells, sent well-flowered specimens of Crimson Rambler Rose and Deutzia Lemoinei, together with plants of Leycesteria formosa variegata and Asparagus Sprengeri. Plants of Streptocarpus gigantea were staged by Messrs. J. Laing & Son, Forest Hill. A very pale form of Maréchal Niel Rose came from Miss B. Tomlinson, Chellaston, Derby.

The Zonal Pelargoniums, staged by Messrs. H. Cannell & Sons, Swanley, were exceedingly striking, and consisted of such varieties as White Lady, Sherlock Holmes, Owen Thomas, Lord Elgin, Lord Rosebery, Double Jacoby, Midsummer, and Pink Domino; included in the exhibit was a novelty in white Daisies, The Bride (bronze Banksian medal). A fine group of Cyclamens was shown by Mr. J. Wiggins, gardener to M. Stacey, Esq., West Drayton; the plants bore traces of excellent culture, and were furnished with an abundance of substantial flowers (bronze Banksian medal). A high standard of excellence was noticed in the groups of Cyclamen staged by the St. George's Nursery Company, Hanwell, which was large, and composed of magnificently grown plants, while the quantity and quality of the blooms left little to be desired (silver Flora medal).

Very commendable was the group of Clivias staged by Messrs. B. S. Williams & Son, Upper Holloway, amongst which were noticed fine trusses of Holloway Beauty, Robusta, Ambroise Verschaffelt, and Baroness Schröder; the firm also staged well-flowered plants of Azalea mollis (bronze Banksian medal). A large group of Calla Little Gem was staged by Mr. E. Beckett, Aldenham House, Herts, the dwarf habit, diminutive blooms, and bright green foliage of which were extremely attractive (silver Banksian medal). H. W. Pownall, Esq., St. Margarets-on-Thames, sent eighteen varieties of cut Camellias, which included many of those best known.

Mr. Downes, gardener to J. T. Bennett Poë, Esq., Cheshunt, sent a plant of the Anthurium Andreanum var. maximum. Plants of a new Fern, Pteris peculium, were exhibited by Messrs. Stroud Brothers, Finsbury Park, N. Messrs. J. Veitch & Sons, Chelsea, sent a small but superb collection of Amaryllis, which included Model, Rosalind, Excel, Eros, Diamond, and Xantho; the same firm also showed flowers of their strain of Cinerarias.

Very striking indeed was the large collection of Daffodils staged by Messrs. Barr & Son, Covent Garden, which included such favourites as Golden Spur, Snowflake, obvallaris, Thomas Moore, Marchioness of Lorne, Princeps, Henry Irving, Horsefieldi, Sir Watkin, Empress, Wm. Goldring, Leeds amabilis, and Beauty. The same firm also showed Lachenalias, Chionodoxas, Tulips, and other bardy flowers (silver Banksian medal).

ORCHID COMMITTEE.—Present: H. J. Veitch, Esq. (in the chair); with Messrs. J. O'Brien, De B. Crawshaw, Norman C. Cookson, F. Hardy, H. M. Pollett, W. H. White, J. T. Gabriel, W. H. Protberoe, H. J. Chapman, J. G. Fowler, T. W. Bond, E. Hill, H. Williams, J. Jacques, H. Ballantine, and A. H. Smees.

The Orchids exhibited by Messrs. Hugh Low & Co., Upper Clapton, made a bright and beautiful display. They were well diversified, and comprised numbers of the more popular kinds and varieties of Odontoglossums, Cattleyas, Cypridiums, Dendrobiums, and several others (silver Flora medal). Messrs. Charlesworth & Co., Heaton, Bradford, staged a number of plants, including Cypridium Boxalli excellens, C. Warneri, C. selligerum majus, Odontoglossum Halli, O. Alexandræ, O. Ruckerianum Masoni, O. Lindeni, Masdevallia falcata, Cœlogyne speciosa majus, Maxillaria Sanderiana, and a few Dendrobiums (silver Banksian medal). De Barri Crawshaw, Esq., Rosefield, Sevenoaks, sent a plant of Odontoglossum Coradini, Rosefield variety.

Very imposing were the Orchids from Messrs. J. Veitch & Sons, Royal Exotic Nursery, Chelsea. The plants were remarkable for their splendid health and for the many brightly coloured and finely formed flowers they were carrying. Amongst the most prominent were Platyclinis glumacea, Lycaste Skinneri, Cymbidium Eburneo-Lowianum, C. Lowianum, Cattleya Trianae, C. Schröderæ, Phalænopsis Sanderiana, Oncidium sarcodes, Cypridiums in variety, Dendrobiums in good numbers, with Odontoglossum triumphans, and numerous others (silver Flora medal).

So far as numbers of flowers are concerned, the group of Orchids staged by Mr. Wm. Bull, King's Road, Chelsea, was very conspicuous; but quality was also combined with quantity to a marked degree. Dendrobiums, Oncidiums, Odontoglossums, Phalænopsis, Cattleyas, Cypridiums were all seen in excellent health (silver Flora medal). Mr. H. N. Tracey, Twickenham, sent Dendrobium Devonianum and Phalænopsis Stuartiana, while W. T. Ellis, Esq., Dorking, was represented by Maxillaria lepidota and a fine plant of Odontoglossum Alexandræ.

Only three Orchids were shown by Sir Trevor Lawrence, Bart., Dorking. They were *Dendrobium Wardianum*, *Cattleya Exoniensis*, and a beautiful variety of *C. Trianae Reine des Belges*. Mr. Bond, gardener to C. D. N. Ingram, Esq., Godalming, staged *Cattleya fulgens*, a hybrid between *C. Lawrenceana* and *C. Mendeli*. Messrs. F. Sander & Co., St. Albans, as usual staged some beautiful Orchids, including *Dendrobium aggregatum*, *D. Donnesiae*, *Coelogyne Dayana*, *Cymbidium Lowianum* (good form), *Oncidium sarcodes*, *O. St. Legerianum*, *Odontoglossum sceptrum regalis*, *Zygopetalum crinitum*, and *Cattleyas* (silver Banksian medal).

Dendrobiums formed the major portion of the exhibit from F. Hardy, Esq., Cheshire; considerable numbers of forms were staged, and produced a very beautiful effect. A plant of *Cattleya Schrödera delicata* also came from the same source (silver Flora medal). Norman Cookson, Esq., Wylam-on-Tyne, also showed *Dendrobiums*, including *D. Murrayi*, which is referred to below. Mr. H. J. Chapman, gardener to R. I. Measures, Esq., Camberwell, sent a couple of Orchids, several other competitors sending single plants. H. T. Pitt, Esq., Stamford Hill, staged a fine collection of Orchids (silver Flora medal).

CERTIFICATES AND AWARDS OF MERIT.

Amaryllis Eros (J. Veitch & Sons).—The colour of this *Amaryllis* is white with bright rose markings. In form it is excellent (award of merit).

Amaryllis Rosalind (J. Veitch & Sons).—Of almost perfect form, this is a very attractive variety. The colour is bright red and white (award of merit).

Anthurium pumila (W. Bain).—This is a diminutive growing variety with small leaves, but the flowers are of medium size, thickly and heavily spotted with crimson (award of merit).

Anthurium Rothschildianum maximum (W. Bain).—An exceptionally large-flowered form, with white ground covered with myriads of bright crimson spots (award of merit).

Bellis perennis The Bride (Cannell & Sons).—This is a large-flowered improvement amongst white Daisies, being of freer habit than the older form (award of merit).

Cattleya Schroderae caloglossa (J. Veitch & Sons).—The colour of the sepals and petals of this *Cattleya* is very delicate blush, a band of which also surrounds the lip. This organ has a large patch of crimson purple, with a yellow throat (award of merit).

Cattleya Trianae Reine des Belges (W. H. White).—This is a magnificent *Cattleya*. The petals are very broad, and, with the sepals, pale blush in colour. The lip is heavily fringed, and of a deep purplish rose shade. The throat is yellow (award of merit).

Cypripedium hirsutissimum (T. Statter).—A handsome form of this well-known Orchid, named Stand Hall variety, was staged. It is a magnificent form of the type (award of merit).

Dendrobium Dulcea picturatum (N. Cookson).—The flowers of this *Dendrobium* are peculiarly blotched in colour. The shades are white and rose (award of merit).

Dendrobium Murrayi (N. Cookson).—Pure white is the colour of the sepals and petals of this *Dendrobium*. The lip is delicate cream with a maroon throat (award of merit).

Deutzia Lemoinei (Cripps & Son).—This is a floriferous plant, favouring *Deutzia gracilis* in many points, but the snow white flowers are produced on stout perpendicular growths differing from the well-known pendent habit of the older variety (first-class certificate).

Fritillaria pudica (Wallace & Co. and T. S. Ware).—This is a simple, charming flower of bright canary yellow, with several faint markings of orange red. The habit of the plant is dwarf and sturdy (first-class certificate).

Odontoglossum Coradini, Rosefield variety (De Barri Crawshaw).—The flowers of this variety are of good size, pale yellow in colour with large chocolate blotches (award of merit).

Odontoglossum crispum Evelina (W. Ballantine).—This is an extremely beautiful form of this variable Orchid. It is named after Baroness Schröder (award of merit).

Odontoglossum excellens, Rosslyn variety (H. T. Pitt).—A superb form. The organs are all of exceptional substance and beautifully coloured. Yellow is the prevailing colour of the sepals and petals, the latter having a white blotch down the centre. Both these and the lip have large chocolate blotches (first-class certificate).

Odontoglossum Humeanum excellens (Charlesworth & Co.).—The brown sepals and yellowish-green and brown petals of this variety are very noticeable. The lip is very pale cream (award of merit).

Odontoglossum Ruckerianum Masoni (Charlesworth & Co.).—The markings of velvety brown on this variety are very beautiful (award of merit).

Tulipa Eichleri (P. Barr & Son).—Rich orange-scarlet is the colour of this *Tulipa*, the base of each flower being bright black. The flowers are large and of fine shape (award of merit).

THE LECTURE.

In the absence of the writer, Mr. W. Jggulden, the essay on "Salads" was read by Mr. Weathers, the Assistant Secretary. The paper dealt practically with the culture of various salads, greatest attention being devoted to Lettuce, Onions, Mustard and Cress, Cucumbers, and Tomatoes. The essayist treated these rotatively, giving particulars of culture and names of the most suitable varieties to grow for the purpose named; showing how to maintain a continual supply of saladings,

CARNATION URIAH PIKE.

I DESIRE to thank "A. D." (page 206), also "E. R. R." (page 226), for replying to my query regarding the flowering propensity of the above *Carnation*. From private inquiries made of several *Carnation* growers, their experience and observations point to the remarks made by "A. D." I should like to ask what "E. R. R." actually means by starting his plants in August, growing them on through the winter and spring, flowering them all the time. Are the plants in question established, with flower spikes pushing up? If so, at what time of the year were they propagated? Or were they subjected to the treatment sometimes given to the border varieties—viz., propagated in July and August, when established in pots introduced into heat, and commence to flower from the beginning of March onward? I have found that these early-forced plants are much weakened, the forcing taking too much out of the plants, and the return not sufficient to warrant its general acceptance without there is a good reserve stock in hand for future propagation.

Speaking generally of the winter-flowering *Carnations*, to flower them successfully the spikes must be getting well advanced during August and September if a good quantity of flowers is expected. We have succeeded in having a few stray flowers of the old crimson *Clove* during October and November, but I do not think they can be persuaded to flower in any quantity for the winter months. But as *Uriah Pike* comes closest to this old *Carnation* in colour and scent, if it can be induced to flower freely during the dead time of the year, so that hundreds of blooms can be had, a few stray flowers are of not much worth, especially when one is in the habit of cutting thousands during the winter of other varieties. As my employers are passionately fond of the old *Clove* colour and scent, I am desirous to obtain them in quantities if such is possible. Therefore I shall be glad, and doubtless others, for further particulars from "E. R. R.," from the cutting to the flower.—INQUIRER.

BIRMINGHAM JOTTINGS.

A RECENT call at the unique suburban domicile of Mr. Robert Sydenham—the well-known Dutch bulb caterer—situated in the Bristol Road, Edgbaston, proved so interesting and attractive that the writer feels actuated to forward for insertion in the *Journal* a few notes anent the more important floral gems at present in resplendent array, and of which the enthusiastic owner cultivates with loving care. The presiding genius was fortunately at home, and busily engaged noting down in his carefully arranged "register" the various points and qualities of his numerous new-comers in his select assortment of *Hyacinths* and *Tulips*.

Foremost among the *Hyacinths* was a specimen of *Lady Churton*, blush white, very handsome, and for which variety he was awarded a first-class certificate at the exhibition held in the Crystal Palace, Sydenham, on the 14th ult. Especially fine also were such as *La Belle*, a pale blush pink in the way of *Grandeur à Merveille*, but with a much finer spike; *Electra*, a charming pale blue, very fine spike; *Mountain of Snow*, appropriately named in respect to its grand truss of pure white large bells; *Isabel*, double white, and pronounced to be the finest extant; *La Grandesse*, large, pure, and fine; *Johan*, pale lavender, an uncommon colour, compact truss of large bells; *Captain Boyton*, bold spike with large purplish blue bells; *De Candolle*, deep lavender, open bells, well finished; *Princess Wilhelmina*, blue with handsome spike; *Plimcoll*, very fine white bell, good spike. The foregoing are a few of the best that were in bloom in the very choice collection.

In company with the *Hyacinths*, an assortment of strong and healthy *Tulips* in progressive development attracted attention. Amongst them were several pots of *Yellow Prince*, with beautifully variegated foliage. Unique is a fine *Pottebakker*, white with a bold yellow flame; *Queen of the Netherlands*, very pretty, delicate Apple blossom tint; *Montessor*, deep rich yellow, in the way of *Ophir d'Or*; strikingly beautiful was *Vermilion Brilliant*; several varieties of the newer *Tulips* were advancing, also a few choice varieties of *Narcissi*—some were blooming in ornamental vases, the simple compost in which they were luxuriating being cocoanut fibre intermixed with finely crushed oyster shells, and a few lumps of charcoal at the bottom of the vase for keeping sweet the moist fibre.

But what shall be said of the grand array of *Cyclamens*? Why, simply "perfection," in their various shades of colour and robust growth. Several of the finer flowered varieties had been marked for future culture or for seed. It must have been an invidious task to discriminate and select from such a wealth of refined beauty and excellence—and, verily, they are regarded as Robert the Jeweller's floral jewels.

In rival competition with *Hyacinths*, *Tulips*, and *Cyclamens*, mention must also be made of a collection of very fine plants of seedling *Cinerarias*, with leaves of great substance and size, whilst the blooms were remarkable for their form and various colours of the brightest and richest hues, all the plants being grown in comparatively small pots. A word must also be said anent the nearly 3000 plants of *Carnations* and *Picotees*, occupying in twos, threes, and fours their flowering pots, and all in a perfect state of health and vigour, presaging for their curator additional chief honours at the forthcoming exhibition tournaments. Mention *en passant* may be made of a frame full of the choicest Sweet Peas extant, just protruding through the soil, five seeds only being allotted to each 6-inch pot, to be planted out in due season in groups about 4 feet apart—a decided advantage in every respect over the ordinary "row" system.

Out of doors beds of *Narcissi* and *Tulips* promise a rich picture of floral loveliness; a large bed of recently pruned Hybrid Perpetual Roses caught the eye, with *Narcissi* between the lines, square paving tiles

being laid between the rows for the convenience of gathering the flowers, &c., an excellent plan, and worthy of imitation. One of the most important features connected with the garden is the regimental-like line of well-painted barrels, containing the various manures suited to the necessities of each class of plants; the locale of these food larders is a Privet hedged-in yard, humorously designated the domicile of the "Forty Thieves." The strictest attention is paid to every detail, and neatness and method is everywhere evident, and the general owner's motto is "Excelkior."

BIRMINGHAM GARDENERS' MUTUAL IMPROVEMENT ASSOCIATION.

The above Society held its fortnightly spring meeting on the 16th inst. in the Athletic Institute, the occasion being the exhibition of single pots of Hyacinths and Tulips by the members for the prizes offered by the Committee. The competition was not strong, as there were but half a dozen exhibits. The winners were respectively—Hyacinths, Messrs. Haynes, Walter Jones, and Phoenix; Tulips, Messrs. Phoenix, Oliver Brasier, and Haynes, all with creditable examples. A discussion on the Hyacinth and Tulip was opened by Mr. C. R. Bick, gardener to Walter Chamberlain, Esq., Harborne Hall, who in a very practical and lucid manner described his system of culture. An animated discussion, taken part in by Messrs. R. Sydenham, James Deans, Walter Jones, William Spinks, and William Gardiner, the latter mentioning the interesting fact that the value of the Tulip was so extraordinary in 1809, and that a single bulb was sold for £300, and in 1818 another bulb fetched £500. In 1854 the late Mr. Groom of Clapham Rise catalogued some Tulips at enormous prices, and such as Duchess of Cambridge, Princess Mary of Cambridge, and Miss Eliza Seymour were sold at 100 guineas each. The following year the whole of Mr. Groom's collection was sold at very low prices, and from this time the Tulip declined in public favour at a rapid rate.—VIATOR.

SPRING FLOWERS AT HOLLOWAY.

EVERYONE loves spring flowers; there is something bright, refreshing, and invigorating about them that appeals to all. Perhaps it is because they are the first, the harbingers of all the glories that follow throughout the summer and autumn. There are, of course, various sections amongst the early blossoms of the year, and enthusiasts of the herbaceous and rock garden, like Mr. Arnott for instance, never tire of dwelling on the merits of their favourites. Charming they are beyond doubt, and worthy of every whit of the praise accorded to them; but as their merits are safe in the hands of Mr. Arnott, so far as the Journal is concerned, these lines shall be devoted entirely to that section belonging to the forcing department.

Never in the annals of horticulture was the cultivation of bulbs such an industry as it is at the present time; nearly everyone has a weakness for them, from the unassuming amateur who rears a few Hyacinths in glasses for the embellishment of his sitting-room, to the market grower who counts his by the thousand to meet the requirements of the masses. The art of the hybridist, too, has done so much in the way of producing variety, that whereas a few years ago such flowers as Hyacinths, Tulips, Narcissi, and others were represented in only a few shades of colour, we are nowadays almost mystified by their diversity.

We have recently had opportunities of feasting our eyes on spring flowers *en masse*, and visitors to the exhibitions at the Crystal Palace and Regent's Park could not help noticing, amid the blaze of bloom, the well-grown examples for which the well-known Holloway firm of Messrs. B. S. Williams & Son were responsible. Having therefore had the opportunity of seeing the flowers at the shows, we were seized with an inclination to see them at home, with the result that a journey was made for that purpose, nor were we disappointed, as the idea hitherto formed as to what they would be like was fully realised on arrival at the nursery.

Taking the Hyacinths first, it would be difficult to speak too highly of them, either respectively or collectively, and though the following opinion may not be generally entertained, we have few flowers in which good culture or otherwise can be detected more easily than those of this family. The size, freshness, and sturdy appearance of the spikes showed plainly that their treatment had been of the best, while the diversion in colours was sufficient to result in the confusion of any spectator. All the best known varieties were represented, and among the shades of red were the rosy pink flowers of Charles Dickens and Von Schiller, the telling carmine striped spikes of Macaulay, and the deep blush of Gigantea. The deep rose hue of Koh-i-Noor was there side by side with the salmon pink of Fabiola.

Amongst whites, it seems needless to again praise such favourites as Alba superbissima, Baroness Van Tuyll, La Grandesse, and Mont Blanc, but so good were they that it would be unfair to pass them over. Blues, too, were well represented by fine spikes of the sky tint of Queen of the Blues, the pleasing lilac hue of Charles Dickens, the azure blue of Czar Peter, and the bright shade of Grand Maître. Among the darker forms were noticed Baron Van Tuyll and King of the Blues, deepening till we arrive at the purples Haydn and S. H. Barkley, and finally King of the Blacks, which needs no description.

Turning to the single Tulips, the same high standard of excellence was noticed, while to pick out one variety and deem it the best was a task beyond us. The pure yellow of Canary Bird was exceedingly striking, as also was the clear golden shade of Ophir d'Or. Very conspicuous was Vermilion Brilliant, which needs no description,

while amongst the whites Joost Van Vondel bore the palm. The rich silky rose flowers of Proserpine and Keizers Kroon with its large crimson scarlet blooms broadly edged with bright yellow made themselves conspicuous, and amongst the many others noticed were Van der Neer (violet), Prince of Orange (a fine orange red, and sweetly scented), and Couleur Cardinal (flamed scarlet).

The beauty of the Clivias left little to be desired, as the plants appeared to be one mass of flowers. As these differ only in shade, to the casual observer but little contrast is presented in the varieties. One of the prettiest we have seen was Holloway Beauty, a new light form raised by Messrs. Williams. We were also struck with Meteor and Baroness Schröder, which are very distinct: while others worthy of mention were Ambroise Verschaffelt, aurantiaca, cruenta, Marie Reimer, Surprise, and Van Houttei. We could not help expressing a regret that we were a little too soon for the Hippeastrums, as the number of plants grown and quantity of spikes showing were evidence that the show will be a fine one. True, there were a few of the seedlings in bloom, and we were not surprised to see that one had been given the name of the South African lion—Dr. Jameson, this being of a very bright shade of scarlet.

The above remarks only deal with the principal flowers noticed. Narcissi and Lily of the Valley were blooming in large numbers. Bright masses of Azalea mollis added no small share to the display; and last, but by no means least, was a fine collection of Cyclamens, characterised by fleshy marbled foliage and large well formed flowers, forming crowns to numerous sturdy footstalks. Enough, however, has been said to show that the well-known Holloway firm has mastered the art of bringing spring flowers to a high state of perfection; at any rate, the recent visit impressed this on the mind of—G. H. H.



HARDY FRUIT GARDEN.

Grafting Fruit Trees.—Grafting is mostly employed as a means of renovating old but healthy trees. Those which give inferior fruit may often be profitably renewed by placing on the principal stems, shortened to within 2 feet of the boles, grafts of approved varieties. The system of grafting best suited for these is crown or rind grafting. For young stocks side or whip grafting is best, the stock and scion in this case both being of equal thickness. In order to be successful in all forms of grafting it is essential that the scions to be used be in a perfectly dormant condition, this being insured by cutting them from the trees early in the year and laying them in in a cool moist position until wanted. Old trees should have their branches headed down early, and a fresh portion of wood removed when ready to graft, so that it will be possible to work where the bark is fresh. The best time to graft is when the buds are bursting, the sap having then commenced circulating.

Crown or Rind Grafting.—*Preparation of the Stocks.*—Cut the branches transversely, making the wood and especially the edges of the bark smooth. There should be no knots or rough projections on the branches at the points selected for grafting. Make a slit in the bark from the top of the stock downwards, 2 inches in length and deep enough to cut through the bark, reaching the alburnum or sapwood. Then with a wedge-shaped piece of ivory or similar smooth, hard substance lift the bark gently on each side to admit the scion.

Preparation of Scions.—The scions should be portions of last year's wood, the central part of well-ripened shoots being the best. Cut them about 6 inches in length, leaving three bold buds above the portion prepared to fit the stock. In cutting the scion make a clean slanting cut at the lower end the same length as the incision in the stock. Take out a small portion of wood, cutting transversely inwards, where a commencement is made in shaping the scion. This will allow of the latter resting securely on the stock when inserted. Three scions may be inserted in the larger stocks, two in the smaller.

Tongue or Whip Grafting.—*Preparing the Stocks.*—Seedling stocks and stocks of small diameter are operated on by this method of grafting. If the branches of young trees are to be worked they must be shortened to within 2 feet of their origin, cutting them so as to leave a gentle slope just over a bud situated on the opposite side. Seedling stocks must be cut in a similar way 6 to 9 inches from the ground. To form the tongue incision begin a little distance from the top of the sloping cut on the stock, and make a cut downwards, but inclining slightly inwards. Then make a vertical cut, commencing a short distance above the last cut, meeting it at the bottom. This will detach a wedge-shaped portion of wood, and form a tongue on the stock.

Preparing the Scions.—The scions must be the same thickness as the actual stocks on which they are to be worked. Having cut them the proper length, so as to leave four bold buds when fully prepared, make a sloping cut downwards, corresponding in inclination with the first cut in the stock and of the same length. This is followed by two cuts upwards in the scion to form the tongue, which fits into that of the stock. The cuts must be made clean, using a sharp knife, and taking care that the incisions are not made too deep.

Uniting Stocks and Scions.—The surfaces must be kept free from any dirt or grit, as this would prevent adhesion of the required parts. In adjusting the scions in crown grafting slip in the thin end of scion between the bark and wood, working it down until the shoulder touches the stock. In tongue or whip grafting the tongued portions must fit into one another. In all cases of grafting one of the most important matters is the exact joining of the inner barks or alburnous tissue. This tissue contains the cambium layer, a series of long narrow cells constituting the actively dividing tissue. If this joining cannot be effected on both sides one side only must be carefully attended to, or the result will not be satisfactory. Immediately the joinings have been effected bind round with soft matting or worsted. The object must be to bind firmly but not tightly, whereby too much pressure is placed upon the joined tissues. The greatest care is necessary in the process of tying not to disturb the junction.

Waxing or Claying.—The exclusion of air from the joinings is favourable to a speedy union. It also prevents evaporation and maintains the adjoining tissues in a regularly moist state. Grafting wax or a mixture of clay and manure are the mediums by which this is effected. A grafting wax to use warm may be compounded of the following:—2 lbs. of beeswax, 2 lbs. of resin, 1 lb. of tallow; melt and mix all together. Spread over the joints when just warm enough to run easily, using a brush. Some prefer to use a wax which can be applied cold. The following is a good recipe:—1 lb. of yellow wax, 1 lb. of turpentine, $\frac{1}{2}$ lb. of Burgundy pitch, and $\frac{1}{4}$ lb. of mutton suet. Melt together and mix, then leave to cool.

A mixture of clay and manure, consisting of horse droppings and cow manure, one part of each to two parts clay, is excellent. The whole of these materials should be worked together, after riddling the horse manure and clay, until they form an adhesive plastic mass. Form a thick covering of this over and around the joints and on the head of the stock in crown grafting. Should it be liable to crack tie moss over it, and damp when necessary.

Planting Apples and Pears.—Comparatively small trees can with advantage be planted now, but the operation must not be deferred later than the end of the month. It is not a suitable time to plant large trained trees; but small specimens that can be freely cut back succeed with careful attention in planting and judicious after management. If planting in stations prepare a circular space 6 feet in diameter. In low-lying positions, where water collects in the subsoil, the base will require draining, or the trees may be planted above the surrounding level. Freely work the soil, allowing a depth of 2 feet for the roots to work in. Improve the texture of inferior soil by adding loam. A little manure will be beneficial if the soil is naturally poor, so that free growth may be induced. Fertile soil will promote strong and vigorous growth without manure being intermixed with the whole. Avoid the danger of the roots becoming dried while the trees are out of the soil. Prune away bruised ends before planting, and lay them out evenly in positions near the surface. Stake and tie each tree as planted except those against walls, and mulch over the roots with manure.

FRUIT FORCING.

Vines.—*Earliest Forced in Pots.*—The canes started last November that have been duly attended to, are now ripening the Grapes. The supplies of nourishment and water at the roots should be lessened gradually, so as not to give a check, and the atmospheric moisture must be reduced, yet not withholding it entirely. Maintain a temperature of 60° to 65° at night and 70° to 75° by day, keeping between 75° and 85° from sun heat, ventilating freely in favourable weather.

Early Houses.—In the house started early in December the Grapes are rapidly advancing towards the colouring stage, and should be afforded due, but not excessive, supplies of liquid nourishment. A light mulching of short stable manure maintains an even moisture in the border, in which, however, there must be no deficiency, as it is important that the Grapes be kept plump and the foliage healthy. Damp the paths and borders at closing time until the fruit is well advanced in colouring, after which reduce the moisture gradually, and provide a circulation of warm air by day and night. This is all that is usually necessary to prevent Madresfield Court and other Grapes from cracking; it is also an excellent preventive of "spot."

Vines Started Early in the Year.—When the Vines come into flower afford a circulation of rather dry air, with a temperature of 65° to 70° at night for Black Hamburgh and similar varieties, and 70° to 75° for Muscats. All shy setting kinds should have the bunches lightly gone over with a large camel's hair brush, to remove the "caps" and the glutinous substance sometimes too abundant, choosing a warm part of the day, after the house has been freely ventilated, and fertilise them gently with pollen from another free-setting variety. When the berries are fairly set Black Hamburgh and similar sorts may be thinned, but Muscats and other shy setters should be left until the properly fertilised berries are taking the lead. When the Grapes are set afford top-dressings of fertilisers, striving to get a good swelling in the berries during the short time that elapses before stoning commences. In the case of open borders a light mulching of sweetened material is of essential service in maintaining uniform moisture. Admit air early and liberally as the heat increases, striving to secure stout short-jointed wood, thick leathery foliage, and tough elastic skins to the berries. Close early, with abundance of atmospheric moisture, retaining 85° to 90° well on towards evening from sun heat, and allow the night temperature to fall to between 60° and 65°.

Succession Houses.—Disbud when the best shows for fruit can be determined, leaving only growths for which there is space to allow the

foliage full exposure to light with a margin for lateral development. Tie down the shoots before the fruits reach the glass, and pinch one or two or more joints beyond the fruit when the leaf at stopping point is the size of a halfpenny. Stop the laterals at the first joint, and to one afterwards as growth advances, or allow lateral extension where there is room, but only on that condition; ventilate early, but avoid lowering the temperature, as this chills and produces crumpled foliage and rust. If the promise is good for fruit, afford a top-dressing of an advertised fertiliser, either watering it in moderately or pointing in lightly, but avoid saturating the soil.

Late Houses.—Syringe Vines that have commenced growth two or three times a day, not keeping the rods constantly dripping with moisture, closing with a moist atmosphere, in preference to a wet rod, at 75°. Employ fire heat only to maintain a temperature of 55°. Vigorous young Vines do not start regularly, therefore to prevent a rush of sap to the upper part of the canes bring these down into a horizontal position, or depressing the points until all the buds have started to the base:

Vines for Early Forcing in Pots.—Some cultivators prefer Vines of the current year's raising from eyes, and others cut-backs. In either case the Vines should now receive their final potting. The pots should be clean and efficiently drained, potting firmly in turfy loam with a 12-inch potful of wood ashes or a 6-inch potful of kainit to every barrow-load of loam, and the latter amount of dissolved raw bone and soot, mixing thoroughly. Stand at the sides of the house, preferably on hot-water pipes with an intervening slate, keeping the house rather close, and if the weather be bright shade for a few days. Train the canes as near the glass as practicable without touching to insure the solidification of the growths, pinching the laterals at the first leaf, and other growths treat similarly, stopping the lead at from 6 to 8 feet, according to the length of cane desired.

Young Vines.—Those planted last year, and cut back to the bottom of the rafter or trellis at the winter pruning, must be encouraged by gentle fire heat, so as to allow time for their making and completing a good growth. The laterals must have their points pinched off at the first leaf up to a height of 6 to 8 feet. The result will be concentration on the part below and some increase of lateral growths, which suppress by pinching to one leaf as made, but take one growth forward from the extremity of the cane as leader.

Planting Young Vines.—Some cultivators consider autumn the best time to plant Vines, but others prefer the spring. Where provision has been made for inside and outside borders the Vines should be planted in the former, confining the roots to it until they have occupied the allotted space. The Vines, if cut-backs of last year, may be placed in position, either before or after they have grown to the extent of a couple of inches, the roots being spread out evenly in the border. Vines of the present year's raising will not require to be planted out for some time yet, though those raised in squares of turf may be transferred to permanent quarters as soon as the roots are protruding through the sides. This method is the best for raising Vines for permanent planting. The Vines planted dormant or only just moving will need cool house treatment, but if in growth they must have a temperature of 65° at night, and 70° to 75° by day, with an advance of 10° to 15° from sun heat, whilst Vines of last year, and only advanced about an inch or two, will be accommodated with a night temperature of 50°, they starting better by natural means than artificial. Syringe occasionally, maintaining a genial atmosphere.

Pines.—Recently potted suckers indicate the rooting by starting into growth, and the young roots are very tender, hence liable to injury from the effects of too much bottom heat. If the heat at the base of the pots is more than 85° raise them, placing some loose tan under and around them, but do this without chilling the roots. Afford water as required, yet only when required.

As it is necessary that Pine plants be grown without check, get the requisite fibrous loam ready, having it in good sized lumps, and under cover, to become warmed and dried. In potting ram it firmly round the roots, plunging at once in a bottom heat of 90° to 95° until the roots have permeated the soil, when they should only have 85°, which is suitable for successional plants, with a night temperature of 60° to 65°, ventilating at 80° and closing at 85°, lightly sprinkling the plants occasionally. Fruiting plants and those near the flowering stage should have a night temperature of 65° to 70°, and 75° by day, with 80° to 90° from sun heat, closing at 85°, damping all suitable surfaces in the house at the same time.

Cucumbers.—Young plants from seed sown with the new year are showing fruit, and need more warm soil adding to the hillocks as the roots protrude. They like a little bone superphosphate, nitrate of potash, and gypsum, about five parts superphosphate, dry and crumbling, two parts crushed saltpetre, half part ground gypsum, and one-eighth part sulphate of iron, mixed, using a small to a large handful per square yard of bed every three weeks or so. This or soot improves old plants wonderfully, and a top-dressing of rich material brings on the roots and growth of plant and fruit. More moisture will be needed as the days get longer and brighter, both at the roots and in the atmosphere. Maintain a night temperature of 65° to 70° when mild, 70° to 75° by day, keeping through the day at 80° to 90°, closing early in the afternoon, and running up to 90° to 100°, supplying plenty of moisture. Plants in frames will need the beds lining and good night coverings. Admit a little air at 75°, then allow the temperature to rise to 85° or 90°, and close so as to maintain the latter figure as long as possible. Water very carefully and avoid draughts.

THE BEE-KEEPER.

PROSPECTS FOR 1896.

THE present prospects are encouraging to bee-keepers, although it is somewhat premature to attempt to predict what the season is likely to be, as so much will depend on the weather experienced in various parts of the country during the honey flow. But be that as it may, the present outlook is certainly brighter from a bee-keeper's point of view than I have known at this season for many years past.

After an exceptionally mild winter, when bees have not been confined to their hives many days together, the first two months of the year being mild and very dry, the third month is now well advanced. With the exception of a few frosty nights, and a heavier rainfall, the weather has been similar to that experienced during the preceding months of the year, but the sun daily increasing in power has induced the bees to be merrily on the wing, enabling them to fly long distances in search of pollen from the fast opening flowers.

The Palm Willow is now in full bloom, and so are the Apricots. The latter are flowering remarkably well, and as there are many thousands of them fully expanded within a few yards of my apiary, it affords a happy hunting ground, and a plentiful supply of pollen to the bees, which must eventually benefit the grower, as every bloom will be fertilised. The former is one of the best pollen-bearing trees with which I am acquainted, and it has the advantage of lasting a long time in bloom, a fact that should be kept in mind by bee-keepers who have an opportunity of planting it, as it will grow freely in any out of the way place, but like all the *Salix*, will thrive best on the banks of ponds or similar places.

All stocks appear to be in good condition, and up to the present date no losses have to be chronicled; many of them, too, are stronger in bees than has been the case in some seasons the second week in May. There has also been a much greater consumption of stores, which can readily be accounted for by the mildness of the weather, and, with the exception of two hives, I have not observed any dead bees. One of these was a straw skep, which I found on examination was very light, and the bees inactive. A cake of soft candy was at once placed over the hole on the top of skep, half of which was consumed or carried down during the first twenty-four hours. Although this was done only five days ago the bees are now as active and carrying in pollen as freely as any in my apiary.

Should the fine weather continue the majority of stocks will be very strong by the first week in May, and unless ample room is provided they will at once prepare to swarm; so taking all things into consideration I have great hopes of the forthcoming season being a record year.—AN ENGLISH BEE-KEEPER.

TO CORRESPONDENTS

All correspondence should be directed either to "THE EDITOR" or to "THE PUBLISHER." Letters addressed to Dr. Hogg or members of the staff often remain unopened unavoidably. We request that no one will write privately to any of our correspondents, as doing so subjects them to unjustifiable trouble and expense.

Correspondents should not mix up on the same sheet questions relating to Gardening and those on Bee subjects, and should never send more than two or three questions at once. All articles intended for insertion should be written on one side of the paper only. We cannot reply to questions through the post, and we do not undertake to return rejected communications.

Greenhouse Plants Injured (Mrs. G.).—The foliage appears to have been injured by some noxious fumes, and may have been caused by an overdose (or unsuitable material) of fumigation, or an escape of gas from a stove or flue. There is no disease likely to cause the mischief, which is certainly very serious, but beyond a green aphid we failed to discover anything of a fungoid or insect nature likely to interfere with the health of the plants. Indeed, the injury has been caused by fumes or a noxious substance of some kind, and not by parasites.

Rhododendron hirsutum (Southerner).—See illustration (fig. 51, page 285) for the information you ask for respecting this plant.

Weevils on Ferns (W. S. R.).—The beetle-like insect you have sent is the destructive *Otiorynchus sulcatus*. When numerous they do much damage, eating almost any kinds of plants, and they seem to have a special liking for Ferns. As they feed chiefly at night, that is the time to attack them, and if the plants are in pots they can be shaken violently over a white sheet for dislodging the enemy. They are easily seen on a white surface, and can be better prevented from escaping than if less visible on a brown mat. Solutions of tobacco and quassia water, not so strong as to injure the plants, have been recommended for rendering them distasteful to the weevils.

Fumigating Strawberries whilst in Flower (H.).—It is a somewhat dangerous practice, as the pistils are very tender (stigmas naked) and soon injured; but sometimes we have been obliged to have recourse to it in order to keep down green fly, which otherwise would have ruined the fructifying organs by sucking them dry. The pests must be killed with either the vapour from nicotine or good fumigating paper or rag. Little damage will be done if care is taken to have the flowers and young foliage perfectly dry, the house being left open until fumigation time in the evening, then closing and fumigating without loss of time. It is the moisture that does the mischief, also the heating of the atmosphere, therefore take care to deliver the smoke cool and not give an overdose.

Peach Shoots Diseased (Puzzled).—The shoots of last year are, as you say, affected with a sort of gum, the parasite producing it absorbing the contents of the cells of the cambial layer, encircling it and cutting off the supply of sap; the part above then sooner or later perishes, often when the fruit is half swelled. After the shoot collapses small bodies appear, called sclerotia, which are the resting stage of the fungus, and from these spring the perfect form, named *Sclerotinia fructigena*, *Rehm*. It is common on stone fruits, and conspicuous sometimes on Pears in the autumn in the conidial state, when it is called *Monilia fructigena*, *Pers*. The best remedy is to cut away the affected wood and burn it. It is better to do this than leave it to die later, and thus distribute myriads of spores.

Pruning Outdoor Fig Trees (Amateur).—These only require to have the branches or shoots thinned, as they bear best on the extension system. Old bare branches should be cut out to make room for young and fruitful growth; the extremity branches of trees on walls may be cut back to successional wood, conveniently placed for supplanting them, the remainder of the branches being thinned so as to leave them not less than a foot apart, with bearing shoots equally disposed over the tree. This is best done in the spring before growth takes place, but during growth the shoots must not be crowded, and if thinning be properly attended in summer little pruning will be needed in the winter. The extension growths and those not required should be cut out immediately the fruit is gathered. This will assist the growths left to ripen, and on the ripening of the wood in a great measure depends the future crop of fruit.

Caterpillars Infesting Green Vegetables (Redhill).—The brownish caterpillars are the larvæ of the great yellow underwing moth, *Noctua (Tryphæna) pronuba*, *Linn.*, which lie concealed during the day in the soil, rolled in a ring near their food plants, or sheltered under stones or clods, or in the heart of the plants, and come out at night to feed. The most effectual method of checking their ravages is to examine the soil about the plants with a blunt knife or pointed piece of wood in one hand and a flower pot or other convenient vessel in the other. The caterpillars lie near the surface, hence the name "surface caterpillars," and are readily turned out with the knife or stick and put in the flower pot, and thus, much more rapidly than might be supposed, a field is cleared by market gardeners. The dark lead or pitchy colour insect (a Myriapod), with about 100 pale coloured legs, and rolled up in a ring, is the ground millipede (*Julus terrestris*, *Linn.*), which is best destroyed on a small scale by placing baits of Mangold Wurtzel, cut in rather thick slices, in or on the ground, examining them occasionally. Holes made in Carrots, Beets, or Potatoes answer almost as well as the Mangolds for baits. If very numerous dress the land with a mixture of three parts kainit and one part nitrate of soda, using 4 ozs. per square yard.

Shamrock (Nemo).—The botanical name of this is *Oxalis acetosella*, the common Wood Sorrel, or Shamrock. The plant is a native of the moist shady woods of this country, Europe, and North America, and is one of the most elegant of wild flowers. It delights in retired shady woods, groves, and hedges, and flowers in April or May. It was called by the old herbalists Alleluja and Cuckoo's Meat, because, as Gerard says, "when it springeth forth, the cuckoo singeth most; at which time also Alleluja was wont to be sung in our churches." But Alleluja is merely a corruption of the Calabrian name Juliola. The whole plant has a grateful acid taste, much more so than the common Sorrel, and is on that account used in salads and in sauces. In Lapland it is so plentiful that Linnæus says the inhabitants of that country take scarcely any other vegetable food than Sorrel and Angelica. The expressed juice of the plant is employed to remove spots and iron moulds from linen, and this it does by the great quantity of binocalate of potassa which it contains. Twenty pounds of the fresh leaves have been found to yield 6 lbs. of juice, from which 2 ozs. 2 drachms and 1 scruple of salt, besides 2 ozs. and 6 drachms of an impure saline mass are obtained, and is sold under the name of salt of Sorrel and essential salt of Lemons. The Irish Shamrock is *Trifolium minus*.

Utilising Rose House after June (S. S.).—We do not know of anything better than Tomatoes. The price is certainly much lower than formerly, but even at 4d. per lb. few crops pay better than Tomatoes if the plants are strong and in fruit by the time the potted Roses are cleared out of the house. A certain grower makes ends meet and a little more by acting in that way, having Chrysanthemums in the house from October to January inclusive; but another grower says "mums" do not pay, therefore goes in for Mushrooms instead.

Tuberose not Flowering (S. C. M.).—Judging from the specimen received we think the cause of the flower stem being blind is due to a check, probably when the plants were removed from the bottom heat, it not having been done gradually, so as to avert a sudden cessation of nutriment, or it might have been occasioned by removing from the stove to the vinery, the former, we presume being fully 5° warmer than the latter. Sometimes Tuberose go blind through the roots being lifted before the flower buds are fully formed in embryo, the growth not being completed, and though they throw up flower stems they rarely expand satisfactorily.

Lilium auratum Bulbs Decaying (Lilium).—The scales are attacked by the fungus named *Sclerotinia bulborum*, *Rehm.*, and now in the conidial condition, when the parasite is named *Botrytis cinerea*, and has got a deep hold, receiving nourishment from the cells of the bulbs. We advise submerging the bulbs for half an hour in a solution of Condy's red fluid, diluted with an equal quantity of water, and on taking them out of the solution place crown downwards to dry. If the bulbs are well rooted, clear away the soil from the crown and dress the scales with the solution by means of a brush, which if soft and just moistened with solution, will prove almost as efficacious as the dipping. It is necessary that the affected parts be well moistened; indeed, the whole of the bulbs down to the roots, otherwise the manganese, which is really the active agent, cannot tell sufficiently on the fungus to compass its destruction.

Names of Plants.—We only undertake to name species of plants, not varieties that have originated from seeds and termed florists' flowers. Flowering specimens are necessary of flowering plants, and Fern fronds should bear spores. Specimens should arrive in a fresh state in firm boxes. Slightly damp moss, soft green grass, or leaves form the best packing, dry wool the worst. Not more than six specimens can be named at once, and the numbers should be visible without untying the ligatures, it being often difficult to separate them when the paper is damp. (*Henri*).—The flower was dead through faulty packing; send a fresh specimen in a box and we shall be glad to assist you. (*A Reader*).—The *Dendrobium* is a fair form of nobile; 1, *Odontoglossum gloriosum*; 2, *O. lateo-purpureum*; 3, *O. Sanderianum*. (*T. C.*)—*Begonia natalensis*. (*W. H. B.*)—1, *Selaginella Wildenovi*; 2, *Platynerium alaicorne*; 3, *Acacia Drummondii*; 4, specimen totally insufficient. (*M. C. P.*)—1, *Amygdalus communis*; 2, *Allium neapolitanum*; 3, *Deutzia crenata flore-pleno*. (*Nemo*).—1, *Oncidium sphacelatum*; 2, *Cypripedium barbatum*; 3, *Cœlogyne cristata*. There is nothing very special in either of the Orchids sent, though all are good. (*Somerset*).—A pale form of *C. japonica*.

TRADE CATALOGUES RECEIVED.

T. B. Blow, Welwyn.—*Bee Appliances*.

J. Cheal & Sons, Lowfield Nurseries, Crawley.—*Hardy Plants*.

COVENT GARDEN MARKET.—MARCH 25TH.

THERE has been little change in the market during the past few weeks.

FRUIT.

	s. d.	s. d.		s. d.	s. d.
Apples, per bushel	2	0 to 4	6	Peaches, Cape, per case ..	0 0 to 0 0
" Nova Scotia, barrel 13	0	20	0	Pears	0 0 to 0 0
Grapes, per lb.	1	3	3 6	St. Michael Pines, each ..	2 0 to 6 0
Lemons, case	11	0	14 0	Strawberries, per lb. ..	8 0 to 14 0

VEGETABLES.

	s. d.	s. d.		s. d.	s. d.
Asparagus, per 100	6	0 to 6	6	Mustard and Oress, punnet	0 2 to 0 0
Beans, per lb.	0	6	1 3	Onions, bushel	3 6 to 4 0
Beet, Red, dozen	1	0	0 0	Parsley, dozen bunches ..	2 0 to 3 0
Carrots, bunch	0	3	0 4	Parsnips, dozen	1 0 to 0 0
Cauliflowers, dozen	2	0	3 0	Potatoes, per cwt.	2 0 to 4 0
Celery, bundle	1	0	0 0	Salsafy, bundle	1 0 to 1 6
Coleworts, dozen bunches	2	0	4 0	Seakale, per basket	0 9 to 1 3
Cucumbers, dozen	2	0	4 0	Scorzonera, bundle	1 6 to 0 0
Endive, dozen	1	3	1 6	Shallots, per lb.	0 5 to 0 0
Herbs, bunch	0	3	0 0	Spinach, pad	0 0 to 4 6
Leeks, bunch	0	2	0 0	Sprouts, half doz.	1 3 to 0 0
Lettuce, dozen	1	3	0 0	Tomatoes, per lb.	0 6 to 0 0
Mushrooms, per lb.	0	6	0 8	Turnips, bunch	0 3 to 0 9

PLANTS IN POTS.

	s. d.	s. d.		s. d.	s. d.
Arbor Vitæ (golden) dozen	6	0 to 12	0	Ferns (small) per hundred	4 0 to 6 0
Aspidistra, dozen	18	0	36 0	Ficus elastica, each	1 0 to 7 0
Aspidistra, specimen plant	5	0	10 6	Foliage plants, var. each	1 0 to 5 0
Azalea, per dozen	18	0	36 0	Genista, per dozen	8 0 to 12 0
Cineraria, dozen pots ..	6	0	12 0	Hyacinths, dozen pots ..	8 0 to 12 0
Cyclamen, dozen pots ..	8	0	15 0	Lycopodiums, dozen	3 0 to 4 0
Daffodils, dozen pots ..	6	0	9 0	Marguerite Daisy, dozen ..	6 0 to 9 0
Dracena, various, dozen ..	12	0	30 0	Mignonette, dozen pots ..	8 0 to 12 0
Dracena viridis, dozen ..	9	0	18 0	Myrtles, dozen	6 0 to 9 0
Ericas, various, per dozen	9	0	24 0	Palms, in var., each	1 0 to 15 0
Euonymus, var., dozen ..	6	0	18 0	" (specimens)	21 0 to 93 0
Evergreens, in var., dozen	6	0	24 0	Tulips, dozen pots	6 0 to 8 0
Ferns in variety, dozen ..	4	0	18 0		

AVERAGE WHOLESALE PRICES.—OUT FLOWERS.—Orchid Blooms in variety.

	s. d.	s. d.		s. d.	s. d.
Acacia or Mimosa (French)			Narcissi, var., doz. bunches	0 9 to 2 0	
per bunch	0	9 to 1	6	Orchids, various, doz. blms.	1 6 to 12 0
Anemone (French), dozen				Pelargoniums, 12 bunches	6 0 to 9 0
bunches	2	0	4 0	Primroses, dozen bunches	0 6 to 0 9
Arum Lilies, 12 blooms ..	2	0	4 0	Primula (double), dozen	
Asparagus Fern, per bunch	2	0	4 0	sprays	0 6 to 1 0
Azalea, dozen sprays	0	4	0 9	Roses (indoor), dozen ..	1 0 to 2 0
Bouvardias, bunch	0	6	1 0	" Tea, white, dozen ..	2 0 to 4 0
Camellias, dozen blooms ..	0	9	1 6	" Yellow, dozen (Niels)	3 0 to 6 0
Carnations, 12 blooms ..	1	0	3 0	" Red, dozen blooms ..	3 0 to 8 0
Cyclamen, dozen blooms ..	0	3	0 6	" Safrano (English),	
Daffodils, single, doz. blms.	1	6	6 0	dozen	1 6 to 3 0
" double, doz. blms.	0	4	0 9	" Pink, per dozen	3 0 to 6 0
Eucharis, dozen	3	0	4 0	Smilax, per bunch	5 0 to 9 0
Gardenias, dozen	2	0	3 0	Spiraea, dozen bunches ..	4 0 to 6 0
Geranium, scarlet, doz.				Stephanotis, dozen sprays	6 0 to 9 0
bunches	4	0	6 0	Tuberose, 12 blooms ..	0 6 to 1 0
Hyacinths, dozen spikes ..	2	0	4 0	Tulips, dozen blooms ..	0 6 to 1 6
Lilac (French) per bunch	3	0	5 6	Violets Parme (French),	
Lilium longiflorum, twelve				per bunch	4 0 to 5 0
blooms	3	0	4 0	" Czar (French), per	
Lily of the Valley, 12 sprays	0	6	1 0	bunch	2 0 to 3 0
Maidenhair Fern, doz. bchs.	4	0	8 0	" Victoria (French),	
Marguerites, 12 bunches ..	2	6	4 0	12 bunches	1 0 to 1 6
Myosotis or Forget-me-not,				English, 12 bunches	0 9 to 1 0
dozen bunches	3	0	6 0	Wallflowers, dozen bunches	2 0 to 6 0



THE AGRICULTURAL LABOURER AND HIS POSITION.

A GREAT deal of capital has been made out of the monotony of a farm labourer's life. How does it compare with the monotony of a factory hand, of a furnace man, a collier, or a thousand other employments we could name? In most manufactures there is a great subdivision of labour, and consequently the men are told off to one department, and kept there day after day and year after year—that is, the men drawn from the same class as the agricultural labourer. If a man by extra ability and diligence attains to higher things so much the better; in every known kind of work this occurs, but we are speaking now of the majority.

Now, on a farm the work varies from day to day and from season to season, and the work is always of a progressive nature. The results are so apparent even to the dullest, and it is a sheer impossibility that there can be such terrible monotony out in the wide fresh fields as there is in the close hot room, full of noisy machinery, or in the darkness of the coalpit.

From the sanitary point of view the outdoor labourer is also in a better position. How many very aged people you find in the villages, and how much more robust are the countrymen than their town brethren. Looking back for the last thirty years to our experience on a farm, how very few have been the serious illnesses, and indeed how very few "days off" have the men been. Rheumatism is the chief ailment, and bad enough too, but it is not a fatal one, and the death rate is very low.

Cheap books and newspapers are within the reach of the many now, and there is much quiet enjoyment and many little pleasures that quite escape the eye of the casual observer. There is in the rural character a great depth of religious feeling, there is still a good bit of the old Puritan leaven at work, and the people do not forget to work as well as pray. It is the services in the little red brick chapels that prove the most attractive; many of the ministers are drawn from among themselves, the edifice is of their own raising, and the service is in the vernacular. It is marvellous where all the money comes from to meet current expenses, when the richest members are only small shopkeepers, and there is not £1 of endowment for either minister or chapel.

There is another pleasing phase of the agricultural life, the great increase of temperance. Indeed, it is a thing almost

unknown in our village to see a working man the worse for drink. This is in a measure the result of better and more plentiful food.

As the Saturday half-holiday question has been discussed in its bearings on the horticultural world, a challenge was sent to us to give our views on the movement as affecting the agricultural population. The farmer's men are employed as factors in the making of his livelihood. The great man's gardener administers to his pleasure and luxury, and therefore they cannot be put on the same footing. With all the good will in the world a farmer cannot afford to let his men off for a weekly half-holiday. If the gentleman can afford himself the pleasures of a beautiful garden and long ranges of glass, he can also afford himself the pleasure of large-hearted liberality towards his servants. The question of £ s. d. comes first in this practical workaday world; would the labourer be willing to do as much work in five and a half days as in six? If he would the question might be considered. He gets so very much better paid now than he did twenty years ago, and farming will not stand the strain of greater expense.

To get at the real value of the labourer's wage it must be converted into *kind*, and it will be found by anyone examining the annexed table that he gets more in *produce* with less money than he did twenty years ago. Now this is somehow how the figures work out:—

1876.		s.	d.
Wages at 18s. per week, less 2s. rent	3½ stone wheat at 1s. 6d. ...	5	3
	3½ stone barley at 1s. 3d. ...	4	4½
	3 lbs. mutton at 8d. ...	2	0
	3½ lbs. beef at 9d. ...	2	7½
	1 lb. wool at 1s. 9d. ...	1	9
		16	0
1896.		s.	d.
Wages at 15s. per week, less 2s. rent	4½ stone wheat at 9l. ...	3	4½
	4½ stone barley at 9d. ...	3	4½
	4 lbs. mutton at 7d. ...	2	4
	4½ lbs. beef at 6d. ...	2	3
	1½ lbs. wool at 1s. ...	1	9
		13	1

Everything that a working man buys is cheaper, some things are 50 per cent. less, and so the purchasing power of his money has increased; this is seen, and happily so, in the greater comfort now found in the labourer's home.

Do the labourers as a body want a Saturday's half-holiday? We doubt it. Possibly some of the young fellows, infected with the restless spirit of the age and its accompanying love of excitement, would like the chance of visiting the nearest football or cricket match. Given a free Saturday afternoon, how long would it be before the various sporting amusements of pigeon shooting, rabbit coursing, sparrow and starling sweeps, and with the necessary (?) bookmaker, all now so common in the colliery villages, be introduced into the agricultural districts?

"Satan finds some mischief still for idle hands to do," and if the result of a free time has a similar effect on farm labourers to what it has had in the towns we may well pause before we give any encouragement to such a movement.

But apart from the social and moral standpoint, as well as the financial one, Saturday is on most farms (especially in winter) the busiest day in the week. A heavy stock of horses and cattle must have attention every day alike, and if Sunday work is to be minimised, much preparation is required on Saturday. In fact, for a regular holiday this would be the most unlikely day in the week. Most labourers, at least in the districts we know, can get a day off almost when they like, and not only that but the modest request for "t'ould galloway and shepherd's cart to tak' missus and bairns," is granted too. All the young single men get a week once a year, and they do not hesitate to

ask for a day "off" at the time of their village feast or the county agricultural show; and mind, there is no stoppage of wage as there would be did they work in mill or foundry.

It is well known that the farm labourer is rapidly deteriorating in technical skill and ability to perform his work. Of course there are exceptions, but, speaking generally, the young men who stick to agricultural work show little or no anxiety to improve themselves as labourers. They do not take any trouble to learn the arts of hedging, stacking, thatching, and clipping, but would seem to prefer to watch and criticise the work of their elders, with the supremest indifference to the future. If free lectures and classes on these subjects are offered them, they laugh, and say, "Not me." As one old labourer remarked, "They doant want to larn for fear they may be set to do it." Clever labourers are scarcer and commanding better wages every year, so that there is every inducement for young men to improve themselves. But although they are qualified to use nothing but a muck fork (and are not fond of that), they quite consider themselves worth as much as any skilled workman, and expect the same wage. As long as he has two arms, two legs, and a head (even if there are no brains in it) "a man's a man for a' that." It would be well if all labourers were paid strictly according to ability, and not by bard and fast line, on the strict equality system.

WORK ON THE HOME FARM.

March came in like a lamb in the Midland counties, and we must wait to see if it fulfil the other half of the proverb, and go out like a lion. High winds, heavy rains, showers of snow and hail have made up typical March weather, except that the rainfall has been rather in excess. Great is the satisfaction of those who took advantage earlier of the fine tilth, and got in a large portion of their spring corn, the land may not be in such condition again this side May Day.

On strong land which was in a rough condition the rain, however, may have been hardly yet sufficient. We are preparing for Mangolds, another dressing and ploughing being given. Nothing more will now be needed until drilling time. Winter Tares look well, and we are now making another sowing for forage. Except for the latest mowing we prefer winter to spring Tares, as we think they grow a more bulky crop, and also make better food less frothy.

Swedes are now coming from the pies in beautiful condition, and the difference in weight between them and those still in the ground is most marked. Surely if storing will pay this winter, when will it not?

Where moles are not closely killed they have been hard at work throwing up hills. In pastures if these are spread with a shovel, and the land be then chain-harrowed, a benefit will have been gained rather than damage done to the grass. Numerous molehills look very unsightly, and on young seeds appear to do much damage; but little surface is really covered by them, and they can be easily spread. The wisdom of exterminating the mole has long been open to question, and one of the oldest and cleverest farmers in the East Riding would not have a mole killed, as he had great faith in the utility of these hard-working underdrainers.

METEOROLOGICAL OBSERVATIONS.

GAMDEN SQUARE, LONDON.

Lat. 51° 32' 40" N.; Long. 0° 8' 0" W.; Altitude 111 feet.

DATE.	9 A.M.					IN THE DAY.				Rain.
	Barometer at 32°, and Sea Level.	Hygrometer.		Direc- tion of Wind.	Temp. of soil at 1 foot.	Shade Tem- perature.		Radiation Temperature		
		Dry.	Wet.			Max.	Min.	In Sun.	On Grass.	
1896. March.	Inchs.	deg.	deg.		deg.	deg.	deg.	deg.	deg.	Inchs.
Sunday .. 15	29.937	38.6	36.8	S.W.	42.9	53.0	29.4	77.9	25.1	0.037
Monday .. 16	29.877	50.1	48.6	S.W.	42.9	56.4	33.3	94.8	38.0	0.015
Tuesday .. 17	29.974	47.9	45.2	S.W.	43.2	56.2	40.7	80.2	33.7	0.532
Wednesday 18	29.615	47.1	46.6	N.	44.6	48.1	46.7	61.3	46.1	0.358
Thursday.. 19	29.967	41.1	38.1	N.	43.6	52.8	31.8	83.2	26.3	—
Friday .. 20	29.938	48.1	44.4	S.W.	43.0	50.8	38.9	69.2	32.2	0.401
Saturday .. 21	29.801	49.9	48.9	S.W.	44.0	54.8	46.7	64.1	45.0	0.040
	29.844	46.1	44.1		43.5	53.2	38.9	75.8	35.2	1.383

REMARKS.

15th.—A little faint sunshine about 11 A.M.; rain about 4 P.M.; the remainder overcast.
16th.—Overcast and showery morning; sunny afternoon; high wind all day.
17th.—Sunny early; clouded over before noon, and slight showers in afternoon.
18th.—Incessant rain from 3 A.M. to 5 P.M.; clear cold night.
19th.—Bright sunshine all day; clear night.
20th.—Overcast, with frequent slight showers, and almost incessant rain from 5.30 P.M.
21st.—Almost continuous rain from midnight to 10 A.M.; dull and damp till noon; fair afternoon; shower at night.

A wet week, with temperature above the average.—G. J. SYMONS.



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Journal of Horticulture.

THURSDAY, APRIL 2, 1896.

A SPRING REVERIE.

THERE are few things more discouraging to those who seek to tell of the beauties of the garden in spring than to turn to the pages of Ruskin or of Jefferies, and to contrast the writings of these masters of our English tongue when speaking of Nature and her ways with our own feeble and faltering attempts to speak of the garden's flowers in fitting words. Thus did I think last night when after a vain attempt to write to please myself I dipped into their books and again and again read with delighted thoughts their glowing words. No, one must admit defeat; but as Ruskin and Jefferies tell of Nature in her wider aspects in language worthy of their theme, there is nothing out of place in speaking of the garden's narrow bounds in less noble words, unworthy though they be of the beauty of the blossoms and leaves they seek to describe. The only consolation is that to some the feeble and faltering words of the lover of flowers may be more acceptable than the infinitely more eloquent ones of those who view the garden through the glass of fashion, or judge of their flowers only by the "outward" eye. Thus with all humility do I essay to speak of the flowers in the garden in the witching days of spring.

The Daffodils perhaps best represent to us at this season the nobility of the Lilies, which, as Ruskin tells us, have exercised an ennobling influence. And can anyone see them in the garden without realising to some degree the thoughts with which they have inspired so many great writers? I saw the other day a great bunch of the glorious double Daffodil we flower growers know as *Telamonius*. A mass of colour it was, compared with which the purest and deepest gold would seem faint and dim. And yet these bunched trumpet flowers looked a thousand times more beautiful as they grew beneath the cottage garden wall, where their great flowers reflected in their golden glory the radiance of the sun itself, and mingled so gracefully with the long green leaves which are the fitting finish to the picture. We see, too, that while the glowing sun has its radiance embosomed in these great double Daffodils, the lesser light of Luna has inspired others with its silvery colouring.

No. 2479.—VOL. XCIV., OLD SERIES.

As in the long summer day at times we begin to look for the coming of the sweet pale moonlight as a relief from the blazing sun, so do we find rest for the eyes in turning them for a time upon the chastely coloured flowers of the white Daffodils. In form, too, how perfect are some of these "Lilies," as our country folks love to call them! Gold and silver vases, cups, and chalices, with chased flutings and carved flanges, borne on star-shaped gold or silver salvers, but faintly echo the thoughts called into being by the study of these blossoms of the Daffodil.

Lilies, too, are these? Yes! truly so, are these strange, nodding, fantastic-coloured flowers of the Fritillaries, which turn to Heaven their dullest colours, as if resolved that their prettiest features should be reserved for the earth from whence they sprung. On the outside they are, as the poet says—

"Faint tinted, spotted like an ocelot's skin,
Streaked like the banded viper, with their lean sleek stalks."

But if you lift their dangling bells you see more of that beauty which makes these Snake's-head Lilies dear to the lover of flowers.

Then, too, there are the Grape Hyacinths, some of which, not only in form, resemble bunches of the fruit of the Vine, but also possess the colouring and even the bloom of some of the black Grapes the experienced fruit growers of our land can grow so well. The common Grape Hyacinth, with its delightful flowers of blue, is a lovely little plant in its colouring, and from its varieties and other species we have shades of colour from pale pearl-blue to deep sooty black blue with white and pale flesh-coloured ones as well.

Wandering through the Flag Irises and among some New Zealand Veronicas in the rock garden, and creeping along the margin of the gravel paths, are the flowers of Io, of which the immortal poet of Avon says:—

"Violet's dim,
Yet sweeter than the lids of Juno's eyes
Or Cytherea's breath."

And as we walk along the pathway there comes wafted to us the breath of their fragrance, reminding us of the saying of Frank Leigh in "Westward Ho!" that "fragrance is, as has been said well, the song of flowers," and, softening our hearts, attunes them to the melody of Nature's soothing music. Admire, too, these sheets of snow-white Arabis which droop from the rocky bank or make mounds of white foam in the borders. Enticing are these to the bees, drawing them to forsake the early Heath they loved to frequent, and hindering them from roaming to the catkins of the Willows which fringe the road a little away. It is pleasant to stand over this Arabis and regale the eye with its blossoms, and the ear with the melodious hum of the forager so intent upon its task that the shadow of the garden's owner disturbs it not.

They care not, though, for the purple or rosy-red flowers of the Aubrietia, which also depends from the rock garden slopes, or gives colour to the border. Its attractions are less powerful to them than to the gardener who delights in its colouring and in its brilliant effect.

Like jewels in various settings shine Primroses and Polyanthuses from rocky nooks, and from the garden's level spots. Loved of the older poets were these Primroses when they knew not the flower save in the pallid blossoms of the wild plant. Cold did it seem to most of them, though they sung of its beauty on grassy bank or by the pathway side. To the Fletchers it seemed to burn like fire, but to the others it was the "pale Primrose." To us who know the Primrose as changed by the gardener's art it is a bright and cheery plant with flowers bright yellow, or orange, pink, ruby red, crimson, and even blue, surpassing in brightness the stray seedlings of the wood which were not content to wear the modest livery of their ancestral race, but stained their petals with faint pink or dull red. So, perhaps, we love it more than they of old, although we confess that still the mossy bank starred with the wild Primrose is a thing of beauty unapproachable in its own way, and lovelier far than many of our gardens can present.

Of the Polyanthus what shall we say? It is, as Thomson says, "of unnumbered dyes," and these are so fine that everyone can recognise their beauty. Few there are who grow the gold-laced Polyanthus which once had so many worshippers at its shrine, but there are thousands who find in the self and parti-coloured varieties much to attract their sense of beauty and to lead them to add these flowers to the objects of their solicitude and admiring care. Very quaint and curious are some of these Polyanthuses and Oxlips, for Nature has shown in them some of the freaks in which she at times delights. There are the Hose-in-Hose in which the calyx has become a second corolla, and others in which strange developments of the calyx have taken place, giving us the Jack-in-the-Green, the Galligaskin, and the Jackanapes-on-Horseback. Other Primroses of various kinds there are of which I cannot now tell, though the golden and silvery dust with which the leaves of some are powdered would lead me to say something.

It is long since the first Windflower of the year opened to gladden us, and now when the days have lengthened more of the Anemone race have opened their cup-like flowers or spread their narrow starry sepals. There are the pleasing Windflower of Greece, not yet over, the Anemone of the Apennines or Geranium-leaved Windflower, the Scarlet Windflower of the South of France, the varieties of the Wood Anemone, which spangles our woods with its clear snow-like flowers, and the great Poppy Windflower, which rivals in colouring, although without the glass-like lustre, the flower whence it obtains the name of "Poppy" Anemone. Looking at these flowers as they open out in the April sun I think with glad heart of their brightness, which is full not only of joy for the present but of promise of the time when the Poppies, despised by many yet beautiful, full of death, as is the lot of man, yet pleasure-giving too, shall flutter in the summer sun.

The Poppy of the spring is, however, not the Anemone, but the Tulip, which has now come with welcome appearing. Many and hard have been the blows given it by those who know it not, and who have mistaken the gay colouring for gaudiness. Much of this is due to the revulsion naturally felt at the mad craze which made this flower not so much the fashion of the day as a medium for the gambling spirit of the speculator, who neither knew nor cared for the beauty of the flower on which he set such fabulous prices. Happily these days are gone, and now we love the flower for what it is, and can place it where it looks at home, springing up among surrounding greenery, and with all its charms enhanced by the foliage 'mid which it stands, or by the carpet of Forget-me-not, of heaven's blue, through which the white Tulip so pleasingly grows.

My tale must now draw to a close; not that it is fully told, but because there is so much more to tell. Dog's Tooth Violets would claim many lines for their mottled leaves and charming flowers. Toothworts, now numbered among the Ladies' Smocks, are so curiously attractive that they would occupy some space. Malodorous Alliums, which Ruskin tells us belong to that group which "has always caused him great wonder," as he "cannot understand why its beauty and serviceableness should have been associated with the rank scent." The allied Squills, Triteleias, Hepaticas, and many others fill our store of beauty to overflowing.

With a feeling that a noble task has been ignobly done and a deeper realisation of impossibility of giving utterance in human words to the thoughts which Tennyson says the meanest flower can give—"thoughts that do often lie too deep for tears"—I lay down my pen. May the failure be forgiven for the spirit which prompted the effort!—S. ARNOTT.

MELON CULTURE.

MELONS can be successfully cultivated both in houses and frames, but on the whole the best results follow their cultivation in a span-roof or lean-to structure which can be well heated. In such a house their cultivation may be commenced very early in the

year. The best time for commencing may, however, be said to be March or very early in April. Melons require plenty of heat alike for the growth of the plants and the maturation of the fruit. A strong but sturdy and steady growth is required, with full exposure to light and sun during the greater part of their active growth.

Plants must be raised in bottom heat ranging from 70° to 75°. Sow the seeds singly in 3-inch pots, half filling these with soil composed of loam and sand with only a small amount of leaf mould. Provide of course a little drainage at the bottom of each pot. Plunge the pots to the rim in the heating medium, a propagating frame or box stood over hot-water pipes affording the requisite temperature. It is important that this medium be kept moist, but the soil in the pots ought not to receive water until the seed has germinated, which will soon take place in the temperature named. When the seedlings appear encourage their growth by maintaining favourable surroundings as to heat and moisture, as well as a light position. Afford support to the stems if necessary and fill up the pots with fresh soil when the first formed roots have multiplied freely. It may in some cases be necessary to give them a size larger pot, but not usually, when the small plants can be transferred directly to the beds. For growing in pots for fruiting repotting will be necessary, one shift only being sufficient before transferring permanently to the larger pots.

House culture, however, in beds renders a shift undesirable, because the plants take better to the soil when small provided proper attention is given. The bed in which they are to be grown should be provided with bottom heat, say two rows of 4-inch pipes, either running below or through the bed. In the latter case rubble must be used to provide a base for the soil, carrying the material above the pipes. Place a layer of turves on the rubble and over that the soil. When the pipes are below the bed the base may consist of moveable slates, stones, or wood resting on iron or wood bearings. A layer of drainage material should be placed on the bottom, turves being used to cover and prevent the soil washing in. With a slight fall to allow of the escape of superfluous water the whole of the base may not require a drainage layer. The joints between the flags, boards, or slates will afford means of escape for water.

The soil for Melons requires to be a rather strong turfy loam, adding a little old lime rubble to it and a pint of soot to each bushel, but no manure except a slowly soluble kind, such as bone dust, at the rate of half a gallon to the barrowful. In placing this in the beds do so in mounds 2 feet wide at the base and a foot wide at the top. The compost should be made very firm, a firm rooting medium being essential for Melons. Allow the hillock to become warmed through and then plant.

The method of training must decide the distance between the plants, and therefore the proper position to place the mounds of soil. When grown as single cordons place the plants 30 inches apart, and train the stem to the top, or nearly so, of the trellis, then nip out its point. Lateral shoots will be produced on both sides of the stem. If they are formed more closely than desirable thin them out early to not less than 6 inches asunder. When flowers are open fertilise the pistillate or fruiting flower with a staminate or male flower, also nipping out the point of each shoot one joint beyond the fruit. Endeavour to fertilise as many at one time as possible, so that they will all set and swell evenly. It is not possible to grow successfully many fruits on one plant by this system, but it affords earlier fruit than by methods allowing of more growth extension. It is a system suitable for pots and for restricted space. The activity of the roots must be maintained by frequent top-dressing and stimulating foods during the swelling of the fruit.

Plants that are to be grown with several main growths must be placed 4 feet apart on hillocks of soil the same distance between. Insert sturdy young plants with a single stem. Train them thus to the height of the trellis, rubbing out the lateral growths to that height, but retain the main leaves. When the stem reaches the trellis stop the growth of the leader. This will cause the production of side growths immediately below. Select the strongest, and train them 18 inches apart on the trellis, stopping them before they reach the top. Lateral shoots will then form freely, and fruitful blossoms appear. Fertilise a number of these at once, selecting a period of the day—namely, noon, when the plants, pollen, and structure are dry. Stop one or two joints beyond the fruit, the sub-lateral growth being stopped at the first leaf as made. Overcrowding the growths or principal leaves must on no account be allowed. Every lateral shoot or large leaf that cannot obtain plenty of light and space to develop is exhaustive to the plant and injurious to its neighbours.

Adequate moisture must be supplied to the roots during the period of growth and the swelling of the fruit, frequent syringing also being carried out to promote a healthy condition of the foliage.

As the fruit begins to ripen less water is required by the roots, yet the foliage should never flag. Syringing ought to cease at this period, a dry atmosphere being essential to perfect ripening. Enough atmospheric moisture may be maintained by damping the floors only in bright weather. Water should not fall or be given immediately round the stems of the plants. Moisture at this point leads to decay and collapse that cannot be remedied. The first signs of decay may, however, be arrested by rubbing in quicklime to the affected parts.

As the fruits swell their weight causes the growths to bend; therefore some support is necessary. Small square boards held up by strings from each corner, and attached to the trellis or wires so as to relieve the weight, are very effective. Strands of matting or netting are also employed.

Great care ought to be taken not to overfeed Melons with strong



FIG. 52.—FRITILLARIA PUDICA.

manures. The application of cold water to the roots must be avoided as a plague, and guard against checks of all kinds in the soil, in the atmosphere, and in air-giving.

Three Melons of known excellence are Blenheim Orange, scarlet fleshed; Eastnor Castle, green fleshed; and Hero of Lockinge, white fleshed.—E. D. S.

FRITILLARIA PUDICA.

AMONGST the many floral gems exhibited at the last meeting of the R.H.S. perhaps none came in for a greater share of praise and attention than the modest looking hardy spring flower depicted in the woodcut (fig. 52), *Fritillaria pudica*. It is a charming species, not 6 inches high, unassuming in appearance, but with beautiful bell-shaped golden yellow flowers that make it singularly attractive. The foliage, like the flower, is elegant, and altogether the plant carries with it that aspect of shyness so characteristic of the hardy spring flowering family.

First-class certificates were awarded to Messrs. R. Wallace & Co., Colchester, and Mr. T. S. Ware, Tottenham, for flowers of this *Fritillaria*, which we feel sure has only to become widely known to be universally admired.

SHOW PELARGONIUMS.

THIS section of the Pelargoniums may safely be placed amongst the most useful of cool house flowering plants during the late spring and early summer months. In many small gardens, however, they are either not grown at all or are very badly treated. In some cases the excuse is, "they are so dirty, we cannot do with them." Pelargoniums and dirt are no more inseparable than are say Grape Vines and red spider. I remember seeing, a year or two ago, a fairly large collection of show Pelargoniums standing under the shelter of a Pear tree, the plants just breaking when they should have been furnished with young growths several inches in length, and nearly ready for placing in their flowering pots. Plants so neglected can never repay the grower for even the little attention he bestows on them. If no better treatment than this can be accorded throw the plants away, for they can bring neither pleasure to the owner nor credit to the grower.

For small conservatories I find one-year-old plants give the best results, and any time during April will be found suitable to take the cuttings. Where a few older plants are grown sufficient side shoots can generally be spared for the purpose. These are placed singly in small pots in a compost of two parts of loam and one of leaf mould, with a good proportion of sand. If the cuttings are taken from vigorous plants with large leaves it is advisable to place a small stake to each, thus keeping it steady in the pot.

The pots containing the cuttings are plunged in fine ashes in a propagating case set over the hot-water pipes in a midseason vinery, the slight bottom heat materially assisting the process of rooting, the case being shaded and kept sufficiently close to prevent the leaves flagging. When rooted the plants are gradually hardened and transferred to cooler quarters. When the small pots are full of roots a shift is given to pots $3\frac{1}{2}$ inches in diameter, using the same kind of compost as before with the addition of a little decayed manure. At this time they may be placed in a cold frame in an open situation, where they remain all the summer, attention being paid to watering and ventilation, with a gentle syringing in the afternoon of each fine day.

After a few inches of growth have been made pinch out the point of the shoot at say every fourth joint till the third week in December, when the last stopping should take place. When the $3\frac{1}{2}$ -inch pots are full of roots a shift is given into pots $5\frac{1}{2}$ inches in diameter, using the same compost as before, and potting firmly. As growth proceeds tie out the shoots, as this materially strengthens the plants, crowded growths soon losing their lower leaves, and becoming an easy prey to green fly.

As the cold nights of the autumn come on it is not well to leave the plants in frames too long, as a cool airy house is much better for them. For want of a better place our plants are removed to a midseason vinery late in September, and placed as near the glass as possible in the lightest part of the house, which happens to be also the warmest, and there they remain for the winter. The house contains, besides the Pelargoniums, a miscellaneous collection of softwooded and bulbous plants, and as some, such as Freesias, Arum Lilies, and Narcissi, are required in bloom as soon as we can get them, the house is kept quite as warm as is good for the Vines. The slight heat appears, however, to be rather beneficial than otherwise to the Pelargoniums. It is generally thought that any heat more than sufficient to exclude frost will predispose them to an attack of green fly; ours have not had a single fly on them all the winter, nor have they any now.

By the middle of October they are ready for their flowering pots, which are not less than 7 inches in diameter—for a few of the strongest 1 inch larger is sometimes used; and as they have to remain in these pots till flowering is over the work must be thoroughly done. With regard to drainage there should be no mistake at this time, as abundance of water will be required when the spring comes, and the pots are crowded with roots. Over the hole place one good-sized hollow crock, for all the remainder soft burnt brick is better than ordinary crocks. For compost use sound loam, with a seventh of manure and enough sand to keep the mass porous; if the loam is very heavy leaf mould may be added with advantage. Firm potting is essential to success, and if the soil is in right condition with regard to moisture, and not of too adhesive a nature, it will not be easy to pot too firmly. The pots should not be filled within $1\frac{1}{2}$ inch of the top, which will allow half an inch of top-dressing to be applied in the spring.

After potting no water will be required for a few days; a gentle syringing early in the afternoon will, however, be beneficial. When water is required give a good soaking, and after this further supplies whenever required. From this time till the spring the main thing is never to allow the plants to suffer from want of water, or the growths to crowd each other, but let every leaf have room to develop; in short, treat the plants so that no check is experienced.

By the end of February feeding must be thought of; scratch over the surface of the soil, give a dusting with one of the many concentrated manures, and over this half an inch of good loam; this will start the plants into renewed activity. Then apply liquid manure, weak at first, once a week, increasing the strength and the frequency of the doses as the sun gains power, till, as the blooming season approaches, it is given at every other watering. As the shoots lengthen each must be supported by a neat stake.

With increasing length of days and sunshine abundance of water will be required. The plants will be all the better if placed where all the possible sunshine reaches them, and also the fresh air, excluding cold draughts. A vigorous daily syringing will be of great benefit till the flowers begin to expand, when, of course, it must cease. If the plants can be stood on a moisture-holding surface it will be preferable to an open woodwork staging; if only the latter is available a covering of mats or sacking will make the atmosphere more congenial to the plants. Should a single green fly make its appearance fumigate at once; but with good all-round treatment the pest is not much to be feared.—NORTH YORKS.

PEACH AND NECTARINE TREES CASTING BLOSSOM BUDS.

EVERY year, and in all gardens where a variety of Peach and Nectarine trees are grown under glass, a certain number of apparent blossom buds are cast when the time arrives for their development into flowers. The buds, falling and retained, are alike in outward conformation and general appearance up to this period, when there is seen to be a difference. Some—those containing the parts of the ultimate blossoms—swelling, the scales of the buds parting and disclosing a rounded knob of silken down, through which anon the petals peep, then the stamens with their anthers bearing the golden life-continuance dust, and finally the pistil in the centre with its naked stigma at the apex and ovary with ovule at the base. Others—those containing nothing but indefinite and defective parts, no ovary, stamens, and petals, with calyx surrounding the ovule—remain stationary, pointed as when at rest, and, as abortions are by Nature, finally thrown or cast off by the ascending sap.

Every cultivator of Peaches and Nectarines under glass is quite familiar with bud-casting, and looks upon it as a certainty of the recurring seasons. In some years it is less than in others, while in not a few instances the buds are cast in such quantity as to give rise to great anxiety as to the prospect of a crop of fruit. Some trees, quite independent of variety, are more prone to cast their buds than others under the same conditions of soil, exposure, and cultural management, which makes the subject more complex and tantalising to the grower. Sometimes a simple operation, such as lifting a tree, makes all the difference between bud-casting and bud-retention. In other cases, transposition, change of soil, different environment, and alteration of management are necessary to effect sound bud formation.

There is also a great difference in varieties, as to proneness or otherwise to bud-casting, which does not appear to be governed by racial vigour and constitutional energy. Royal George is one of the tenderest Peaches, and very subject to mildew outdoors, but it is the least given to cast its buds of any variety under all conditions of cultivation—early, midseason, and late forcing. So also is Stirling Castle Peach, this being of the same race—the Madeleine of the French, and this, with Royal George, crops the surest of all varieties when early forced. Both have small flowers, always bear anthers laden with pollen, and seldom or never produce twin fruits.

Dr. Hogg, though a large-flowered variety, is of the same type as regards the tree and the fruit, but the stamens or male element is of the Grosse Mignonne class or Mignonne Veloutée of the French. "It was raised by Mr. Rivers from a French Peach he received from Brittany, under the name of Pêche Deniaux, and first fruited in 1865" ("Dr. Hogg's Fruit Manual," page 442). This variety is a good second early Peach, bearing well.

Dymond likewise has large flowers, wood of Royal George, fruit of Grosse Mignonne, but with the colour of the male—Madeleine race; indeed, Dymond is the most finely coloured and richly flavoured of the "dark" Peaches, and unrivalled as a second early or midseason variety, always excepting Bellegarde for the latter period for either home use or marketing. It was raised by a small nurseryman or market gardener at Exeter, but his name does not seem to be recorded, which is a pity, as it ought to be associated with so grand a fruit.

Crimson Galande, raised by Mr. Rivers from Belle Baice (of the Grosse Mignonne race), has similar flowers to Royal George, good bud-retentive properties, vigorous habit, freedom of growth of the Madeleine type, and stoutness of the Mignonne Veloutée

class, prolificacy, and high colour. In this there is evidence of the male (Madeleine) overruling the female (Mignonne Veloutée) quite, as regards the inherent tendency, with an increase of race vigour on the part of the plant.

In Bellegarde, the grandest of all the noveau flavoured Peaches, there is the exact opposite, the tree being a Madeleine in growth and flowers, yet the fruit is neither one nor the other, but a compound of both, hence its fine form, large size, and superb quality. Of all the bud-casting varieties this is one of the worst when subjected to early forcing, or even moderately early.

Then there is Barrington, with the wood and flowers of the Madeleine race, its colour intensified in the fruit, which, however, is Mignonne Veloutée in form and quality. It also is a notorious caster of buds when grown under glass, and as remarkably free from that defect when grown against a wall outdoors.

Late Admirable has wood of the Madeleine race and flowers to match, but the fruit is half-and-half of that type and Mignonne Veloutée with a nipple—a new departure—a cross of some representative of the two races before named with a Nectarine, the Grand Noir of the Dutch, from which Mr. Rivers raised Nectarine Peach, and (though usually) does not always come with a smooth Nectarine-like skin. There is a want of down in most of this type, which includes Noblesse and all the “sweet,” high flavoured, and usually light coloured Peaches, which, with the exception of Late Admirable, are all great bud-casters, consequently unsuitable for early forcing, as also is Grosse Mignonne and all its race, having the inherent tendency of the parent fixed in the progeny. But Late Admirable is one of the best early forcing Peaches from a cropping point of view, but not eligible on account of its taking a long time to grow and ripen its fruit.

In contradistinction to the last-named variety comes Gladstone, a sort of Noblesse, with a little Grosse Mignonne, like it in growth and in flower, glandless leaves, like Noblesse and Royal George—see how the breed runs so far as regards plants—and a fruit with a pale flesh, juicy, rich and vinous in flavour. It is a great bud-caster—a Noblesse—unsuited for early forcing, to which the intention is to confine farther remarks in the summary.

Thus, varieties of the Madeleine race inherency have small flowers, and are late in forming the blossom buds, these not being conspicuous, often scarcely discernible, when the fruit is cleared off the trees. On the other hand, varieties of the Mignonne Veloutée heredity have large flowers (generally, but not always), and are early fruit-bud formers, these being prominent by the time the fruit is ripe.—G. ABBEY.

(To be concluded)

ASPARAGUS CULTURE.

“NOT nearly enough of this excellent vegetable is grown” is a time-honoured phrase which still holds good. It is not to be expected that cottagers will ever “take kindly” to it so long as they remain under the impression that only “gentry” can afford to grow it; but farmers and the middle classes generally ought to offer no such excuses as I very frequently hear given for not planting or sowing one or more beds. There are, it is true, some sites not naturally well adapted to Asparagus culture, and in all such cases the difficulties have to be faced and surmounted before success is assured. But as a matter of fact, Asparagus can be as easily and simply grown in the majority of gardens as any other kind of vegetable.

Where the plant is most at home is on naturally deep, well drained, free working soils. In these, under fair treatment, failure would appear to be out of the question, anything in the shape of high culture proving uncalled for. We have only to cultivate and manure deeply, or rather it is usually thought desirable that this should be done. I can, however, point to several large plantations owned and profitably worked by market growers that were only dug one spade deep, which certainly cannot be termed deep culture. In some few private gardens the same method of culture is also resorted to, no raised beds are formed, and yet the produce is regarded as highly satisfactory by the owners of the place. Warmth and moisture rather than a great depth of rich soil are what the Asparagus delights in. Deep root action, brought about by good cultivation and a free addition of manure to the second spit, may be right on the naturally light alluvial soils or any created by additions from the surface, but is wrong in the case of heavy, clayey subsoils.

Digging in solid manure freely one or two spits deep is all the preparation needed when the soil and subsoil come under the category first described, but something more than this is needed with heavy clayey soils. Marking out spaces for raised beds, which may be either 3 feet or 5 feet wide, the former to hold two, and

the latter three rows of plants, should be the first proceeding. The best of the surface soil ought then to be dug and distributed on both sides of a width, quite baring the clay subsoil. Remove a full spit of the latter, and then if the drainage is imperfect this can be remedied by laying a common pipe drain 6 inches deeper, covering with stones, brick ends, or clinkers. A layer of stones and old mortar rubbish may well be spread over the bottom of the bed and covered with some material that will prevent clogging during the first few years. On this must be placed a mixture of fresh loam, garden soil, mortar rubbish, and coarse burnbake, making moderately firm in readiness for the good top soil previously thrown out, and with which is well mixed fine sandy soil, fine mortar rubbish, and old Mushroom bed refuse.

The beds should be built up squarely, and time allowed for settling. This seems at variance with my opening remarks, but it is not fair to ignore the difficulties under which some cultivators labour, and what I have advanced as to the necessity of taking extra trouble in extreme cases does not do away with the fact that Asparagus can be easily and much more simply grown in the majority of gardens or fields than is generally imagined. Even if so much labour had to be expended on the preparation of the beds in all gardens, it must be borne in mind that such well prepared sites are to be regarded as permanent, or quite capable of supporting Asparagus satisfactorily for an almost indefinite period.

Whether seeds shall be sown or plants put out will depend on circumstances. Naturally two-year-old plants would be the first to give cuttings of strong shoots or heads for use, but raising from seeds is the cheaper method of the two. Those who contemplate planting or stocking large breadths of ground with Asparagus might commence at one end this season, sowing the seeds in shallow drills drawn 15 inches apart. This should be done early in April and the seed distributed thinly in the drills. The seedlings ought to be thinned early to about 4 inches apart, and they will then become strong enough to move the following spring. At this time every second row may be lifted, and from two-thirds to three-fourths of those in the other rows be also taken up and replanted 15 inches or more apart in rows 30 inches asunder. Seedlings may be raised for beds in a similar manner, or the seeds can be sown where the reserved portion of the plants are to remain permanently. There are fewer failures when planting takes place after top and root growth have commenced, and I have repeatedly moved Asparagus without losses as late as May.

Purchased plants ought not to be expected to succeed quite so well, at any rate during the first season, as those home raised, as they cannot well be moved without suffering from exposure to drying winds. If they arrive in a dried state, place them on a warm border, give a watering, and then cover with good fine soil, all that start into growth strongly to be transplanted to the beds and the rest thrown away. In each and every case open wide drills rather than single holes for the roots, making the bottoms of the drills highest in the centre, and the plants can then be set on these with their roots spread out evenly, and slightly dipping downwards. Cover with from 3 inches to 4 inches of fine rich soil, finishing off smoothly. Salt should not be applied to young Asparagus beds, a mild dose of this having been known to badly cripple a large number of newly moved plants. Nor is there any need for an application of chemical manure, but a mulching of strawy litter would not be wasted. No weeds ought to be allowed to seed on Asparagus beds, a free use of the Dutch hoe every season saving much after labour. Let the seedlings have three clear seasons' growth before commencing to cut from them, and unless two-year-old plants put out this spring grow extra strongly these should not be cut from next year. Strong growths ought to be supported with either short Pea stakes or stakes and raffia.

Several times lately I have been shown Asparagus beds heavily banked over with farmyard and stable, and even pig manure. “Was this the correct practice?” My reply was invariably to the effect that such a “mucking over” is altogether uncalled for. In some cases, or where the soil is light and non-retentive, it may do little or no harm and probably does some good, a certain amount of fertility being washed down to the roots. Where, however, the soil is of a clayey nature, then I say these heavy manurial dressings are liable to keep the beds in a cold, saturated state throughout the winter and early spring months, occasionally destroying some of the roots. Asparagus roots, unless badly exposed, are perfectly hardy, and exposing the surface soil to the frosts and all weathers acts most beneficially. All the manure Asparagus requires on light soils is a free dressing of salt in the spring just before active growth commences, and again during showery weather in May or June. This may be varied with a much lighter dressing of nitrate of soda, but I can point to beds that are doing good service, though they are twenty-five years old

and have only had enough salt applied to them to keep down the weeds.

It sometimes happens that Asparagus beds are uncovered and unduly exposed to all weathers just when they stand most in need of protection. Only a moderately severe spring frost will cripple the heads coming through the soil. A little strawy litter covered over the beds or rows would save any heads coming through the ground, and the French plan of drawing up ridges of fine soil immediately over the rows of plants serves the double purpose of protection and lengthening of stems. We may not approve of very long blanched stems, but short stalks are a mistake all the same, especially if marketing be the object in view.—W. IGGULDEN.



A NEW CHRYSANTHEMUM AT HESSLE.

At a recent meeting of the Hesse Gardeners' Mutual Improvement Association Mr. Chas. Laughton, gardener to Col. Broadley, Welton House, Brough, brought an American seedling Chrysanthemum for the inspection of the members. It was a pure white Japanese. The bud was taken on November 5th, and it was declared by all to be very good indeed and well worthy of propagating and sending out, and it no doubt will be by Mr. Laughton.

TRAINED SPECIMEN CHRYSANTHEMUMS.

NEVER before were Chrysanthemums so well or widely cultivated as at the present time, and it would be almost impossible to write anything that is really new in their culture, yet I find many amateurs need information, hence I give a few brief remarks on a system I have practised with very good results.

Supposing that large trained plants are wanted for exhibition or home decoration, I advise those who have plants that were last year grown for specimen blooms—i.e., with an upright stem—to cut them down to within 6 inches of the surface, and place them where the temperature did not fall below 50° at night, and keep them syringed once or twice a day until they break into side shoots half an inch long. Then they require to be shaken out of their pots, the roots shortened, any suckers removed and placed into well drained 6-inch pots. Employ a mixture of light sandy soil composed of two parts loam, or the top spit of a pasture, to one of well decayed manure, one part half-decayed leaf soil, and sufficient coarse sand to make the whole porous. They would then make rapid growth, and when the side shoots are a few inches long take out the points and peg out the shoots like Verbenas are treated; but this must be done very carefully, or the shoots are liable to break off. Early in April transfer them to a cold frame, paying particular attention to watering, and admitting air at all favourable times.

At the end of April they will require to be shifted into 8-inch pots, keeping the frame rather close for a few days, when air should again be admitted freely yet gradually, hardening them sufficiently to be placed out of doors by the end of May or the beginning of June. The plants should have the points stopped, so that they will form many shoots; but never pinch and pot at the same time, or they will break weakly. They would also require a few sticks to secure the plants against damage by winds.

About the first week in June they need the final shift into 10 or 11-inch pots, the drainage being carefully placed with small crocks to the depth of 1½ inch, and over this a layer of half-decayed turf, grass side downwards, which prevents the soil getting down amongst the crocks, and over this give a sprinkling of soot. The compost for this potting, also the shifting into the 8-inch pots before named, would be composed of two parts and a half of good loam, one part of decayed manure, and little half-decayed leaf soil and coarse sand. To this I would add a 6-inch potful of Clay's fertiliser, and the same quantity of soot to each barrow of the soil, the whole to be well mixed. Pot the plants very firmly, ramming the soil with a blunt stick as the work proceeds, leaving about 1½ inch from the rims for a future top-dressing. Place the plants on a thick bed of cinder ashes in some good open position, yet sufficiently screened from high winds during the season of growth.

The final pinching should not be later than the last week in June; and if they have been regularly pinched they would now be forming from sixty to eighty shoots on each plant, each to have one good flower. The watering will require regular attention, and weak liquid manure may be given all through August two or three times a week. Sheep droppings tied in an old sack and soaked in a tub of soft water form a good liquid. The plants are also benefited by syringing with very weak soot water made in the same way as the above every evening if very hot weather should intervene. Let the shoots run in a trailing manner amongst the sticks, and keep them tied in places, so as to protect them against any sudden gales.

At the beginning of September the crown buds appear—i.e., a bud

would show with about three growths nestling round it. If this bud is plump and not damaged, or in any other way deformed, the growths round it can be removed, leaving the bud only for a future bloom on each. A similar bud to the one described appears earlier in the season; that is called a July bud, but that is useless, and had better be promptly removed and let all the growths remain. As soon as the bud is fairly set top-dress the soil with half-decayed sheep droppings two parts, with one part loam, and a sprinkling of the fertiliser, pressed firmly so as to leave sufficient space to hold the water when using it. From the 1st to the 10th of October the plants requiring housing, the most suitable place would be a good airy greenhouse, Peach house, or vinery, giving them all the air possible for a few days, and never applying fire heat unless to expel damp or frost.

The plants would require another sprinkling of manure about the middle of October, but as soon as the flowers begin to show colour use nothing but clear soft water. By the end of October they would require their training; neat sticks about 2 feet long and evenly placed, the outer ones starting onwards so as to form heads 3 feet or more through, according to the size of the plants, bringing each shoot round, so that the blooms may come to the right height. Should mildew appear dust with flowers of sulphur; and while the blooms are expanding keep a free circulation of air amongst them on all favourable occasions.

From the foregoing I would sum up the chief points in this way. Keep the plants growing as fast as possible, stopping the shoots at every third or fourth leaf, never allowing them to suffer by want of water; in fact, carrying out the full details herein described, and good results may be anticipated.—W. A. W.

MUSHROOMS IN A FRAME.

HAVING a spare two-light frame that had gone out of use for plants, I decided on fitting it up for a Mushroom bed; and having plenty of stable litter at hand, the work was easily accomplished. Clinkers from the stovehole fire were laid on the ground first, and these were covered with ashes about 4 inches thick, so as to raise the frame a little above the level in order to insure the bed against excessive moisture. Then the frame was put on the ashes, the horse droppings which had been properly prepared were put in, and the bed formed in the ordinary way about 8 inches thick. A lining of stable litter 2 feet thick was built round the frame to the top, as is done for Melons in frames, but with this exception, that the lights are kept covered with 6 inches of clean litter. The bed was formed in January, and the result has proved highly satisfactory. Within five weeks from the time the spawn was inserted I commenced cutting, and have not missed many days since, and there is every prospect of this going on for several weeks.

The bed presents an appearance like those we see portrayed in seed catalogues. I have made a good many Mushroom beds at different times, and consequently handled many bushels of spawn, but never saw any so good as that I spawned this bed with. It was supplied by Messrs. Dickson, Chester. A few days ago the linings were turned, and a little fresh manure added in order to maintain the steady heat they seem to revel in.

I have since made up three other beds in the open. The first was spawned on the 5th of February, and that is coming on equally as well as the first. The succession beds, one of which was spawned February 22nd, and the other on March 13th, are intended to give a constant supply throughout the spring months, and if they do as well as the first there will be abundance of good Mushrooms till the end of May. After that time they get attacked with insect pests, which eat them through.

I pen this short note in order to remind gardeners or amateurs who have an old frame and other materials at hand that they may construct a very useful as well as successful Mushroom bed out of such materials. I used to make my beds outdoors on the ridge system, but finding that they never got sufficiently watered to produce good crops, I have adopted flat beds with very marked success. The ridge system is undoubtedly the safest and best in wet districts, but in dry spots I find flat beds far more successful.—W. WEST CHAPMAN.

THE ACTION OF FROST.

I THINK "Invicta," in his interesting article on the action of frost (page 271), draws some erroneous inferences.

In his last paragraph he infers that when the ground is frozen hard on the surface it stops the radiation, much as a cork in a bottle would prevent the escape of any gas or fluid it might contain; whilst in a mild open winter, the ground being soft, radiation would be free to act, and so cool the ground that May frosts may follow. I think more consoling reflections may rightly be properly inferred from—

First, Frozen ground, say a few degrees below the freezing point, is warmer than frozen ground of (say) 30° below the freezing point, whilst even this latter ground of 30° below freezing point is very warm compared to the liquified air recently exhibited.

Second, The colder the surface of the ground the more rapidly would it rob the soil beneath it of heat, hence the colder the air the deeper goes the frost.

Third, The May frosts may come after a long spell of mild weather in winter simply from a change in the direction of the air currents, which, after being long in one direction, usually change to the opposite.—S. S.



EVENTS OF THE WEEK.—Besides the meeting of the Royal Horticultural Society on Tuesday there will be held a spring flower show at Olympia on the same day. Particulars of this may be had from the Garden Superintendent, Olympia, W.

WEATHER IN LONDON.—Cold north and north-easterly winds have prevailed during the past week, the sky being mostly dull and cloudy, heavy rain falling on some days. Holiday makers are studying the weather forecasts with interest. At the time of going to press it is considerably warmer, and it is hoped that the weather will turn out bright and cheerful for the Easter pleasure seekers.

WEATHER IN THE NORTH.—The week ending the 31st has been a busy one out of doors. With drier weather great breadths of Beans and Oats have been sown, and occasional frosts of from 2° to 5° have aided in the working of the heavier soils. Several days were cold, especially Saturday, with keen N.W. wind. Sunday and Monday were fine, Tuesday morning dull and mild.—B. D., *S. Perthshire*.

ROYAL HORTICULTURAL SOCIETY.—The next Fruit and Floral meeting of the Royal Horticultural Society will be held on Tuesday, April 7th, in the Drill Hall, James Street, Westminster. A lecture on "The Movements of Plants" will be given at three o'clock by Rev. Geo. Henslow, M.A.

THE CHESTER SHOW AND CONFERENCE.—We are informed that in connection with the visit of the Royal Horticultural Society, by deputation, to Chester, on the occasion of the Floral Fête there, that a conference on gardening will be held on the evening of August 4th, preparatory to the show on the next day. The Mayor, we learn, has granted the Town Hall for the purpose, and the Duke of Westminster is expected to preside on the occasion. Among the subjects to be treated are "The Royal Horticultural Society and its Work," by Sir Trevor Lawrence, Bart., the "Garden Craft," by the Very Reverend Dean Hole, and the "Literature of Horticulture and Garden Libraries," by F. W. Burbidge, M.A. Those of our friends who have joined with us in advocating an extension of the operations of the Royal Horticultural Society will be glad to learn of this step out of the ordinary routine.

HORSFORTH GARDENERS' MUTUAL IMPROVEMENT SOCIETY.—Mr. Wm. G. Jewitt, late Chairman of this flourishing Society, has been appointed head gardener to J. J. Candlish, Esq., J.P., Shotton Hall, Castle Eden, Co. Durham. In recognition of the services rendered by Mr. Jewitt in establishing this Society, and as a memento of their esteem, the members have presented him with a very handsome writing desk, with a suitable inscription thereon. As Mr. Jewitt also took a leading part in the establishment of the Tadcaster (Yorks) Paxton Society some six years ago, it is a pleasure to record that, once in a while, a working gardener's efforts to promote good fellowship, and the advancement of his craft, are appreciated and suitably acknowledged.—G. A.

EUPHARIS AMAZONICA.—I herewith send you a note of a fine *Eupharis amazonica* I have. It is growing in an 18-inch pot, and is 5 feet in diameter and stands 4 feet high. It has flowered eight times within the last twelve months, and produced 420 blooms. Do you not think that good for one plant? It is not an old one either, as I have grown it within the last four years from about a dozen small bulbs I found in a 10-inch pan on taking charge here. It is never out of a hot stove except for two months in the height of the summer, when it is removed to a *Cattleya* house. It gets strong liquid manure every time water is required, with occasional handfuls of other fertilisers. But I think the secret of success lies in the fact that I always keep it in a warm state, never much under 90°, and keep the liquid can on the hot pipes a day before using it. The following are the dates and numbers of blooms it has produced during the past year:—1895, March 21st, 40; May 17th, 62; July 15th, 42; August 12th, 73; September 14th, 29; November 22nd, 17; and December 29th, 112; 1896, March 19th, 45; total, 420.—JAMES LORNE, *South Park Gardens, Rothesay*. [We consider this an excellent record, and shall be glad to have other growers' opinions on it.]

ROYAL BOTANIC SOCIETY, DAFFODIL CONFERENCE.—The date of the Daffodil Conference has now been definitely fixed for April 14th. Mr. J. G. Baker of the Herbarium, Kew, will preside. Mr. Burbidge will read the opening address on the "Past, Present, and Future of Narcissi," and papers will be read by the following:—Rev. E. S. Bourne, Mr. W. Robinson, Mr. J. D. Pearson, Mr. C. W. Cowan, Dr. Crawford, Dr. C. Stuart, Mr. J. Allen, Mr. M. J. Caparn, and Miss Marie Low. A show of Daffodils will be held in connection with the above on April 14th and 15th.

CHISLEHURST GARDENERS' ASSOCIATION.—On Tuesday evening, March 24th, Mr. J. McKirchar (from Messrs. B. S. Williams and Son, Holloway) gave a most interesting and instructive lecture on "The Fertilisation of Plants" before the members of the above Association. There was a good attendance, and much interest was taken in the lecture, which was illustrated by a number of well executed diagrams of the different organs of reproduction. A vote of thanks was accorded to Mr. McKirchar.

SPARKEN, WORKSOP.—At this go-ahead place, the residence of J. D. Ellis, Esq., planting is still being carried on. Thousands of choice shrubs have been planted this spring by the gardener, Mr. W. Alderman, and when I called there last week several cartloads were being unpacked for continuing the work. The glass house looked remarkably bright and pleasing. Amongst other plants in bloom I noticed good examples of *Dendrobium nobile*, *crassinode*, and *Findlay-anum*, *Phaius grandiflora*, *Oncidium papilio majus*, and other Orchids; *Euphorbias splendens* and *jacquiniæflora*, *Tabernaemontana coronaria* fl.-pl.; and *Gardenias*, *Eucharis*, *Anthuriums*, *Begonia corallina* trained up rafters of the plant stove were all of great beauty.—T. H. CRASP.

EARLY VEGETATION IN THE ISLE OF WIGHT.—It may be interesting to your readers in this exceptional season to note that I cut the first dish of seventy-five heads of *Asparagus* out of doors on Friday, March 27th. The dates for the two previous years, 1894 and 1895, were March 31st and April 19th respectively. The heads have been showing through the ground since February 25th, but the sharp morning frost of March 15th and 19th cut off the earliest, or I should have been able to cut even before the above dates. The date of the flowering of the *Black-thorn* this year is March 21st, compared with April 22nd, 1895, which is a truer record of the comparisons of the state of vegetation between this year and last. We are now getting cold north-west winds, which are somewhat retarding the very forward growth; but Apples, Pears, Plums, and all bush fruits, are bristling with fruit buds, and look very promising for a good fruit season if not injured by late spring frosts.—C. ORCHARD, *Bembridge, I. W.*

FLOWERS AND FLOWERING SHRUBS IN BLOOM AT TORQUAY.—A leaflet, issued by the Torquay Gardeners' Association, states, as evidence of the mildness of the climate, the *Camellias*, *Arums*, *Palms*, and other varieties of subtropical plants on the Royal Terrace Gardens are worthy of special note; also that the following is a list of flowers and shrubs in bloom at the present time, the whole of which are grown in the open air and without any covering or protection through the winter:—

<i>Arabis alpina</i>	<i>Cactus</i>	<i>Narcissus</i> of sorts
<i>Anemones</i> of sorts	<i>Candytuft</i>	<i>Olearia</i>
<i>Almond</i>	<i>Daphne</i>	<i>Primroses</i>
<i>Auriculas</i>	<i>Daisies</i>	<i>Polyanthus</i>
<i>Aponogeton distachyon</i>	<i>Daffodils</i>	<i>Pansies</i>
<i>Aubrietia</i>	<i>Escallonia macrantha</i>	<i>Prunus</i>
<i>Angelica</i>	<i>Ericas</i>	<i>Ribes</i>
<i>Aucuba</i>	<i>Forsythia</i>	<i>Stauntonia latifolia</i>
<i>Alyssum</i>	<i>Geraniums</i>	<i>Stocks</i>
<i>Bay</i>	<i>Habrothamnus</i>	<i>Scilla sibirica</i>
<i>Berberis</i> of sorts	<i>Hyacinths</i> of sorts	<i>Squills</i> of sorts
<i>Broom</i> , white	<i>Honesty</i>	<i>Silene</i> of sorts
<i>Borage</i>	<i>Iris</i> of sorts	<i>Tropaeolum</i> Ball of Fire
<i>Chionodoxa</i>	<i>Jasminum nudiflorum</i>	<i>Tulips</i> of sorts
<i>Choisya</i>	<i>Laurustinus</i>	<i>Vinca</i>
<i>Cistus</i>	<i>Laurel</i>	<i>Virginia Stock</i>
<i>Crataegus pyracanthus</i>	<i>Leucanthemum alpinum</i>	<i>Valerian</i>
<i>Ceanothus</i>	<i>Magnolia conspicua alba</i>	<i>Veronicas</i> of sorts
<i>Crocus</i>	<i>Myosotis</i>	<i>Violets</i>
<i>Camellias</i>	<i>Marigold</i>	<i>Wallflowers</i> of sorts
<i>Callas</i> (Arum Lilies)	<i>Mignonette</i>	

In the subtropical section of the Royal Terrace Gardens are some fine specimens of *Palms*, *Latania borbonica*, *Chamærops excelsa*, *Dracænas*, *Yuccas*, *Aralias*, *Phormiums*, two very large *Camellias* in full bloom (one of which was presented by the late Mr. W. F. Splatt, J.P., first Mayor of Torquay; and the other by Alderman Mortimer), *Azaleas*, *Cannas*, *Eucalyptus*, *Arum Lilies*, *Cactus*, *Geraniums*, and many other kinds.

— GARDENING APPOINTMENTS.—Mr. Alfred Barnes, for the past six years in the Orchid department of the Right Hon. J. Chamberlain, M.P., Highbury, Birmingham, has been appointed head gardener and Orchid grower to Major-General A. H. Hutchinson, Owthorpe, Bournemouth. Mr. T. J. Jones, late general foreman at Craig-y-Nos, has been appointed head gardener to W. A. Gilbertson, Esq., J.P., Glanrhyd, Pontardawe, Swansea Valley.

— LUCULIA GRATISSIMA.—The late Mr. Stevens of Trentham Gardens attributed his successful culture of this fragrant plant to the use of limestone in the soil. When layers were removed from the fine specimens, then trained to pillars in the large conservatory, they were potted with a compost into which broken limestone was freely mixed. This note may be of service to those who were interested in "G. S.'s" practical article on the subject, page 263.—K.

— PRIMULA OBCONICA.—A correspondent of the "Naturalists' Journal" remarks that those who cultivate this greenhouse plant should be careful how they handle it if their skins are sensitive. The hairs which clothe the leaves have a very strong urticating nature, and in some instances the irritation they occasion has been violent enough to cause a kind of blood poisoning. Upon some persons the fine particles diffused from the foliage set up violent sneezing. One florist in Scotland actually lost his sight from drawing his hand over his face when he had been working amongst some of these plants.

— THE PERSIAN DYE PLANTS.—The plants from which the celebrated dyes known as Henna and Reng are produced, give rise to the most important Persian industry next to that of cultivating and weaving silk, according to the British Consul at Ispahan. These dyes have been used from ancient times all over the East in the adornment of the person. They are applied to the nails, hands, feet, and hair, and in Persia the venerable grey beard is seldom seen, for it is dyed bright red or black. Henna is produced from *Lawsonia alba* (syn. *L. inermis*), a shrubby tree that grows wild in the Bam district of Persia. In some places it is used for dyeing woollen fabrics yellow or brown, when alum and sulphate of iron are employed. Reng seems to be obtained from the Dyer's Woad (*Isatis tinctoria*?), which is cultivated at Bam, and is a biennial. It produces a deep black dye, and is the hair dye of the country. The treatment of both is the same. The leaf is pulverised in mills, which form a feature of life in Yezd. There are thirty-five of them in the town, with an average of two stones each, which are cut from the flint rock in the mountains of Mehriz, about thirty-six miles off. They are usually 8 feet in diameter by about 2 feet thick, and the whole mill is worked by a camel. According to a contemporary, about 2½ cwt. a day of the leaf can be crushed, three camels taking it in turns. When ground to fine powder the Henna is packed in bags of 25 drachms each and is exported to all parts of Persia and the Caucasus. When prepared it costs 2d. to 3d. per lb., the cheapest quality finding its way into the wilds of Kurdistan, the finest into the palaces of Teheran.

— WEATHER AND CROP PROSPECTS IN GUERNSEY.—All kinds of outdoor early produce bid fair to be fully a month to six weeks in advance of last year already in the more sheltered places. Potatoes are ready for earthing above the soil, and the hedge banks have long been gay with Primroses. The crops under glass, too, having had the advantage of a good share of sun heat have come on very quickly, and are generally looking the picture of good health, and, except for an odd case here and there, I hear very little at present of disease amongst Tomatoes. At some of the early places picking these will soon commence, and by the end of April we should be exporting a fair quantity. Produce also in the unheated houses, such as Peas and Potatoes, has made good progress and promises a good return. Broccoli and Radishes have been exported freely during the past two or three weeks. The former, however, owing I expect in great measure to the abundant supply from many sources, has realised a very indifferent price in the English markets, in some cases, I believe, barely clearing freights and expenses. Radishes, on the other hand, have gone off very well and made good prices all round. Bulbous flowers are also now going away in large quantities, but the growers generally seem anything but satisfied with the price they are receiving for them, one large grower whom I visited last week saying that unless prices greatly improved he should leave a considerable quantity unpicked, which seems a pity after so much labour in planting and tending, more especially as, owing to the favourable season, all the Narcissi are remarkably fine this year. Owing to the abundance of grass and green fodder generally cattle have had a good winter, therefore farmers have not needed to make heavy inroads on their haystacks. Last year's Potatoes are almost a drug, and are selling retail at about 3s. the cwt.—X.

— IT is strange that in Asia and Africa, where grass will not grow, the most beautiful flowers and shrubs flourish to perfection.

— MR. E. MOLYNEUX.—The many friends of this able gardener will be pleased to hear that he has been appointed Steward of the Swanmore estate of W. H. Myers, Esq., M.P., his capacity for the position having been proved by his success as gardener and forester during a period of fifteen years. If he can "make farming pay" and also satisfy the occupants of 90 acres of allotments it will be a creditable achievement.

— CARNATION URIAH PIKE—I noticed on page 255, Mr. Bardney failed to flower C. Uriah Pike in the winter. I have never grown the variety in question, but if Mr. Bardney will break off the shoots at the base of some of the plants, and take cuttings from the shoots that will form on the flowering stems, it will cause Uriah or any other Carnation to flower more freely than layers from the base of the plant.—A. L. G.

— LACHENALIA LEICHTLINI.—This is one of the most beautiful plants in cultivation for suspended baskets. The foliage droops over and around the basket, and forms a pleasing contrast to the spikes of golden flowers which stick out in all directions. In planting the bulbs the first thing to be done is to line the basket with moss, and place the bulbs so that they will grow through the sides as well as the top. To those who have only seen the *Lachenalia* in pots an Irish contemporary strongly recommends them to try a few baskets next autumn, and promises them they will not regret the experiment.

— THE HEAT WAVE IN AUSTRALIA.—"In reference to the heat wave in Australia," writes a correspondent, "you may be interested in a letter I had from my son, who is on the borders of New South Wales, about 300 miles from Broken Hill. Here is the record for the week ending January 20th:—115°, 116°, 117°, 119°, 115°, 120°! Since then I have received a line to say, 'We are all done up; thermometer at 122° in the shadiest spot we can hang it! We have had many sad deaths, among others our poor gardener. Sheep are dying by thousands; horses are all knocked up for want of water; the millions of rabbits own the country; and this drought has ruined many persons.'"

— FLORA OF ZERAFSHAN.—In a communication to the St. Petersburg Society of Naturalists ("Proceedings," 1895, i.), M. Komaroff thus sketches the flora of the Zerafshan region of Russian Turkestan. The Aral-Caspian flora covers the lowlands up to the 1000 to 1500 feet level. Next comes the prairie, or Steppe, zone, which spreads up to about 3500 feet of altitude. In its upper parts it is characterised by Steppe bushes, of which the Almond tree (*Amygdalus spinosissimus*, *Bunge*) is the most characteristic representative. Higher up, from 3500 to 6000, or 6200 feet, comes the zone of deciduous trees, which may be subdivided into a lower sub-zone of Mediterranean trees (*Pistacia vera*, *Celtis australis*, *Amygdalus communis*, *Acer monspessulanum*, &c.), with a prevalence of fragrant Labiatae, which attains approximately the 4500 feet level; and an upper sub-zone characterised by Maple trees (*Acer lactum*). The zone between 6000 feet and nearly 8500 feet is taken by the Juniperus trees, which correspond in Zerafshan to the Coniferous trees of other regions. It is covered at its upper limits with rampant bushes of *Juniperus nana* and *pseudosabina*, *Comarum*, *Coton-easter*, *Lonicera*, *Astragalus*, and so on. The Alpine zone attains the levels of 11,000 and 12,000 feet—the morainic plants, *Didymophyssa fedtschenkoana*, *Corydalis fedtschenkoana*, *Cerastium lithospermifolium*, *Saxifraga axillaris*, and *Allardia tomentosa* reaching the highest altitudes. On the Zerafshan glacier, at a spot where it was covered with some gravel, the author found specimens of *Saxifraga axillaris*, *Epilobium latifolium*, *Arabis tibetica*, *Poa karatavica*, and one *Carex*—a fact which shows how careful one must be in interpreting the real sense of plant-bearing strata imbedded amidst morainic deposits. It is also worthy of note that the botanic zones of Zerafshan very much correspond to the zonal geological structure of the highlands. The Aral-Caspian flora covers the æolic deposits of the great desiccated inner sea of Central Asia; the Steppe flora covers the Loess girdle; the Mediterranean trees and shrubs occupy the limestones and the marls, while the Juniperus zone spreads over the crystalline slates and limestones, and the Alpine flora covers the higher granitic massives of the highlands. Man evidently alters to a great extent the character of the vegetation, Pistachio tree groves and the Juniperus excelsa trees being rapidly destroyed; while the hundreds of thousands of sheep which are brought every year to the Zerafshan mountains from the lowlands entirely destroy the Alpine prairies, thickets of *Artemisia dracunculus* taking the place of the grasses.—("Nature.")

— PROPAGATING DAHLIAS.—When buying new Dahlias I order two of a sort, one each to plant out for big blooms, the other to propagate from. Place the latter in large 60-pots, and plunge them 1 foot apart in the open ground. Give enough water to prevent flagging, and in the autumn the pots will be filled with tubers. They can be stored in the pots. This may be of assistance to Mr. T. Pendered, on page 260.—A. L. G.

— SUGAR BEETS.—An American contemporary says, "After expensive experiments in Sugar Beet culture in various parts of the State, the Indiana station finds that all parts of Indiana are suited to the growth of that root. It costs 44 dollars to produce an acre of Beets; the average yield was 12 tons fit for the factory and 10 tons fit for stock food, or 22 tons in all, per acre; the Beet industry is easily learned, but will always be a special industry, as the general farmer cannot give it the attention necessary at all times. The bulletin has also the very important observation that at present prices the crop will not pay in the United States."

— THE VIOLET.—In dissecting the blossom of the Sweet Violet, the students of phytography will have clearly demonstrated to them the utility of the nectary to the parts of fructification. What is termed the spur *calcar* of the Violet, wherein the honey is secreted, is a little bag formed by the lower petals. In carefully taking off the petals of the Violet, and splitting open the nectary with a pointed penknife, it will be seen that the two lower anthers have a tongue or tube attached to them, which descends into the spur, evidently to draw up the nectareous juice for the invigoration of the anthers, or to assist in the decomposition of the farina. As the Violet blossoms in a season when there are but few plants in flower, Nature seems to have taken a double precaution to secure the entrance of the spur against intrusion. For this purpose the two side petals are furnished with a kind of beard, which keeps out the smallest insect, at the same time admitting air, which appears to be necessary in the formation of the nectar or honey. The entrance of the spur is grooved in the under side, but this channel is occupied by the stigma, which bends its hook into the groove, as if to partake of the effluvia of the nectar.—("Rural World.")

— THE MESILLA VALLEY.—This, says "St. Paul's," is the "Garden of Eden" of the New World; it is a sub-division of the Rio Grande Valley proper, the Nile Valley of America. In no other part of America can, it is said, equal advantages be found, it being generally conceded that the soil and climate of the Rio Grande are about as near perfection as anything in this world can be. Not only is the soil rich, but the waters of the Rio Grande, when used for irrigation, fertilise the land afresh each year, rendering it absolutely inexhaustible. The climate and soil are peculiarly suited to the highest forms of fruit and Vine culture, and experts sent to the valley by the French Government have stated that pests—so destructive in other fruit-growing countries—cannot exist in Southern New Mexico, owing to the extreme dryness and altitude. The Mesilla Valley is from 1200 to 1500 miles nearer than California to Chicago, New York, and the other great cities and centres of population in America, and the fruiting season in Southern New Mexico is from three to seven weeks earlier than the Californian season; the Mesilla Valley settlers practically have no competitors, as they are able to place a large proportion of their products on the market before the Californian growers begin shipping.

— PEA ROOTS PENETRATING POTATOES.—Some important points in the growth of plants and the capacity of roots to penetrate into living tissue have been determined by Dr. George James Pierce, a graduate of Harvard and of Leipzig, whose curious and interesting experiments are described in a recent number of "The American Cultivator." Dr. Pierce took a Potato, split it in half, and cut a number of small slits in one of the halves, planting in each a seed of Rape or of White Mustard. He put the two halves together, binding them tightly with string, and placed them with the cut surfaces lying horizontally in a vessel containing damp sawdust. After twelve days it was found that nearly all the seeds had germinated. Some had grown between the cut surfaces, but others had pushed their rootlets vertically into the Potato, in some instances sticking completely through it and the corky layer of its skin into the sawdust outside. The young roots were almost entirely devoid of hairs. The cells of the Potato in immediate contact with the roots were contorted and torn, while two or three of the nearest layers had been divided by walls and become corky, enclosing the root in a sort of sheath and cutting it off from the unharmed part of the tuber. The starch grains were in every instance unaltered, and by an ingenious process Dr. Peirce has shown that what little disintegration there is is due to bacteria and not to fermentation.

— THE NATIONAL AMATEUR GARDENERS' ASSOCIATION.—The next meeting of the Association will be held on Tuesday the 7th April at the Memorial Hall, Farringdon Street, E.C., at 7 P.M., when Mr. J. C. Tallach of Livermere Park Gardens, Bury St. Edmunds, will read a paper on "The Amateur's Greenhouse." The special classes for the evening are, six sprays of Narcissus (distinct), and four bunches of cut flowers, for both of which prizes are offered by the Association. New members will be elected at this meeting, and application forms and all further particulars may be obtained of the Honorary Secretary, Mr. Leonard Brown, The Cottage, Seven Arches, Brentwood, Essex.

— LILIUM BULBS AS FOOD.—Among the Ainos of Japan the chief article of vegetable food is the root of the *Lilium Glehni* (Tiger Lilies). They extract the starch, of which they make a kind of cake with a hole in the middle. By this means a number of cakes are suspended on a string. In Japan Lily roots are largely used in lieu of Potatoes, the bulbs of *Lilium auratum* and *L. tigrinum* being most in request. The bulbs of wild plants are preferred to cultivated ones. They are usually eaten boiled with sugar. They may also be served as a salad or with rice.

— DISTRIBUTION OF SEEDS BY THE WIND.—Bolley records some interesting facts on the distribution of seeds by the wind. In 2 square feet of a three-week-old and 3-inch deep snow-drift, on the ice of a pond 10 yards from any weed, he found nineteen weed seeds, and in another drift, similarly situated, thirty-two seeds, representing nine distinct species. While the wind was blowing twenty miles an hour he poured out a peck of seeds on the snow-crust, and ten minutes after 191 Wheat grains, fifty-six Flax seeds, forty-three Buckwheat seeds, and ninety-one (American) Ragweed seeds were found 30 rods from where they had been poured out.—("Pharm. Journ.")

— THE GERMINATION OF OILY SEEDS.—According to M. Leclerc du Sablon, the reserve substance of oily seeds, whether they are stored up in the embryo or in the endosperm, consists chiefly of oil and aleurone; starch is but rarely found in them. In the species examined the proportion of oil decreases regularly during the period of germination. By the action of a diastase the oil is transformed into fatty acids without any separation of glycerine. During germination these fatty acids, instead of accumulating, are themselves transformed into carbo-hydrates, especially into those belonging to the group of saccharoses. This saccharose is again converted by the action of a diastase into glucose, which is directly assimilated by the plant. Starch is also temporarily present as an intermediate product between oil and glucose.—(Bonnier's "Revue Générale de Botanique.")

— WHEN TO EAT FRUIT.—As everyone knows, most fruits contain acids, and these acids may be made to assist digestion, but much depends on the time and quantity taken. Fruit should always be eaten in moderate quantity and after a meal, because if it is taken before a meal it may so affect the natural juices of the stomach that they cannot perform their function in digestion. An analysis of most domestic fruits, such as Apples, Peaches, Pears, Grapes, Plums, Strawberries, and Raspberries, shows that they contain similar ingredients, and in very much the same proportions. Thus we find about 1 per cent. of malic, citric, hydrochloric, or other acids, 1 per cent. of albuminoids or flesh-producing substances, with about 80 or 85 per cent. of water. Any of these domestic fruits, therefore, when taken after a meal containing a considerable amount of fats or oily matter, will be beneficial because they will supply any deficiency of acids that may be found in the stomach. Especially is this true of a weak stomach.—("Rural World.")

— CANNING MAIZE.—A contemporary says that the canning of Maize for winter use has become a most important industry in the United States, employing thousands of hands and a large capital invested in buildings and machinery. Mr. B. Landreth stated in a paper read before the Pennsylvania Horticultural Society that the number of tins put up during the summer of 1893 was 93 millions, and it was expected that during the summer of 1895 the number of cans had reached 125 millions. New York State cans the largest quantity, with Maine not far behind, and Maryland as a third. The operations in the State of Maryland, of growing the best vegetable sweet corn for canning, have reached a most notable development, one Maryland farmer and canner alone purchasing for several years the seed corn to plant 1100 acres of his own land, and 3400 acres of contracted crop grown by neighbours, every grain from which 4500 acres he puts up in tin cans. His particular operations are not now so extensive, but the work of corn canning in Maryland is increasing every year.



ORCHIDS AT TAPTON COURT.

TAPTON COURT, situate in the western suburbs of Sheffield, the residence of Henry Steel, Esq., is attracting the attention of those who are interested in Orchid cultivation. About two years ago Mr. Steel began to form a collection of the best kinds, which has grown rapidly until the plants now number about 1300. Very great care has been taken in the selection, with the result that at the present time the conservatory is filled with an abundance of bloom that for quantity and quality would be difficult to beat, and certainly one of the best exhibitions of blooming plants in this neighbourhood.

Odontoglossums and Dendrobies are exceptionally good. Amongst the former is a small plant of the crispum section, an imported piece (not yet named) that has been in Mr. Steel's possession about two years, which is now blooming for the first time. It has thrown up one spike, bearing twelve very fine blooms, $3\frac{1}{2}$ inches in diameter. The petals are very fine, of good substance; the inner ones are almost white, whilst the outer ones are tinged with a delicate blush. This is a very fine variety, and worthy of a suitable name.

Odontoglossum maculatum is very good, its spikes of blooms marked deeply with chocolate brown are very attractive, as is O. Andersonianum, which is bearing spikes of well marked flowers. O. Sanderianum is another good specimen, with prettily marked though small blooms. Its white-lipped flowers are good, and give a very graceful appearance to this plant. O. sulphureum is an excellent hybrid bearing, as its specific name implies, flowers of a pleasing sulphur colour. Amongst this section is a plant of O. Halli, bearing a number of fine buds, but they are not yet open.

The Dendrobiums in bloom are very well represented. Three plants of D. Wardianum are a mass of very fine flowers, stout in texture, and good in colour and markings. One of them is now bearing 144 fully opened blooms. D. Wardianum album is good; its pure white blossoms are very chaste and beautiful. The old D. nobile is well represented by numerous varieties. D. nobile nobilius bearing ten flowering bulbs, each full of very deep coloured flowers, may perhaps be placed at the head of fine varieties. The deep colours and tints of these blooms are quite a contrast to the numerous light coloured varieties with which it is surrounded. This year's growths are 2 feet 6 inches in length. D. nobile Sanderiana (true) and D. nobile Cooksoni are both well flowered, the former having deep coloured flowers. D. Ainsworthi bears a number of blooms, white, with a purplish lip, are very attractive. Another good example is D. Ainsworthi roseum, that carries on its four bulbs about ninety finely marked blooms. D. nobile (Hardy's variety), D. melanodiscus (hybrid), D. Leechianum, D. Schröderianum (true) are all represented by good flowering specimens. Other varieties not yet in bloom are D. Amesæ (said to be the largest plant of its kind in England), D. Venus (hybrid), D. Aspasia (hybrid), Aureum \times Wardianum, very fine for this variety, the growths being 21 inches high. D. Rolfei \times Primulinum, D. nobile Victoriense, and other good varieties.

Amongst the collection are a number of Cypripediums (about 100 different varieties), many of which are producing a very good display of fine flowers. Other varieties, in good condition, and in bloom, may be mentioned Cœlogyne cristata, C. cristata alba, and C. Lemoinei. Of the alba variety there are in different stages of development over twenty pans. Cymbidium Lowianum is a good variety, with well-marked flowers. A few Cattleyas, Oncidiums, Calanthes, Lælias, and Phalænopsis amabilis, and others with their varied shapes and colours add to the charm of the beautiful display of chaste flowers that now fill the conservatory, making it one of the most beautiful floral pictures that charms all who have the pleasure of seeing the collection.

The whole of the plants are under the care of the head gardener, Mr. E. Howarth, who, with his employer, takes the greatest interest and pleasure in Orchids and Orchid culture. At the rapid rate these plants have been got together it will soon become one of the finest in the district. The illustration (fig. 53) is from a photograph by Mr. Bernard S. Haigh.—J. H. S.

NOTES ON AERIDES.

THE flowering of a fine plant of the old A. virens draws attention to these beautiful but somewhat neglected Orchids, a set of plants not only bearing splendid racemes of well coloured

blossoms, but being worth growing for the fine appearance of the plants themselves when healthy. They are, in short, truly noble objects when well grown, and it is difficult indeed to say why they are not more generally cultivated. It is not because of any particular difficulty in their culture, for few Orchids are more easily grown, nor is it that they do not give a good flowering return for the trouble bestowed on them. I have always had a great liking for them, and principally in the hope that it may induce some of the Orchid loving readers of the *Journal of Horticulture* to give them a place these few lines are penned.

I would not advise amateurs to procure imported plants, for good established specimens of the best species may be purchased very cheaply, and these are far more satisfactory as a rule. Still, some may fancy the former, and I would say to them, "Select healthy looking pieces with firm strong leaves, not loose at the axils, and the larger the better, because more easily established." Small bits with shrivelled leaves take years to grow into decent plants, and many of them will probably die in the meantime. When received let every part of the plant be carefully and thoroughly sponged, and all dead or decaying portions removed with a sharp knife. Then suspend them from the roof of a hot, moist house with the heads downwards, damping them frequently with tepid water from the syringe and screening them from bright sunshine.

As soon as the foliage is picking up and the plants show that the effects of the heat and moisture are telling on them place them either in pots or in baskets, filling up to the base of the lower leaves with clean crocks and charcoal. In a few weeks roots will probably be seen starting from the stems, and a layer of clean, freshly picked sphagnum moss should be placed over the crocks to regulate the moisture and form a roothold. After this the culture is simple and the plants are soon established and growing freely. Flowers will not usually be produced for a few seasons, but this is rather an advantage than otherwise, as the strain does not come on the plants until they are able to bear it.

When established plants are procured from a nurseryman these will not, as a rule, require repotting, this having been done if needful before leaving the nursery, and it is only necessary then to place the plants in a suitable atmosphere and attend to them carefully as regards watering, ventilating, and other cultural details. What constitutes a congenial atmosphere? may be asked by anyone inexperienced in their culture. I believe there is no better than that of a large spacious house, where instead of hanging close to the glass the plants may be kept a yard or so away, consequently requiring much less shading. In this class of house the atmosphere keeps steady, and a current of air may be allowed without its taking all the moisture from the stages and floor. Heat and moisture they must have, but a natural heat and moisture like that which obtains in their habitat, not the stuffy and steamy heat of a small narrow Orchid house.

Watering at the roots is quite as important as watering in the atmosphere, and observation is necessary here as in all branches of culture. It will be noted by attentive culturists that early in the spring the roots, that through the winter have been wholly of a dull whitish tinge, are pushing young green points. This shows that they are more actively searching for moisture to sustain the growth of the plant. The supply then at this time will have to be increased, slightly at first, afterwards, as the top growth extends, giving it more liberally. All through the growing season, that usually extends from about March till October, the roots must never be really dry, and the sphagnum moss about them kept growing. After this the points of the roots will be seen to be gradually clouding over again, indicating that the season's growth is over. The water must now be withheld by degrees, just as it was increased in the spring, until in the winter little is needed, just enough to keep the foliage in good condition.

Temperature is not such an important point in the culture of these plants as some growers imagine. Of far more importance is it to well consolidate the system of the plants by ventilating the house freely when possible and allowing just as much sunlight as may be without scorching the foliage. The latter is of greatest import during late summer and early autumn, as it prepares the plants for passing our long cold winters, always trying to every class of Orchid. In the kind of atmosphere indicated insect pests are not as a rule troublesome, but should scale put in appearance the plants must be carefully sponged with tepid soapy water. About the sheathing bases of the leaves and in other positions whence they are difficult to remove is where the insects chiefly congregate, and a short pointed stick with a bit of sponge tied on the top is useful for getting into such places. Care must be taken not to puncture or injure the outer coat of the foliage, or more harm will be done than if the insects had been left alone.—H. R. R.

NOTES ON OUTDOOR PEACHES.

HAVING read with considerable interest Mr. A. Young's paper on "Open Air Peach Culture" in recent numbers of the Journal, I can endorse all that is there stated. I consider it is a mistake to suppose that growing Peaches in the open air cannot be carried out satisfactorily, or that open air Peach culture, as some would have us believe, is on its last legs, if not a thing of the past. It is no more impossible now than fifty years ago to grow good Peaches on the open wall. Certainly our seasons are no worse now than they were then, and perhaps not so bad as when our grandparents were young, judging by the tales we have sometimes heard them tell about the weather and the crops.

If, then, the cultivation of Peaches and Nectarines in the open is becoming a thing of the past, we must look to other causes than bad weather or bad seasons. In the garden at present under my care is a number of young Peach trees that are coming into bearing condition, which I found on my advent had not been managed so

required lifting, and added, after removing a quantity of the old subsoil, about three good barrowloads of turf, a peck of old mortar rubbish, and one of wood ashes to each tree. I do not consider it advisable to incorporate farmyard manure with compost for Peach trees; it causes them to make wood too gross, which does not become fruitful. In trenching the border manure was used, but none was allowed to come within 6 feet of the trees. I need not add the result has proved highly satisfactory. True, they did not produce much fruit last year, but they have all made good growth, which is thoroughly well set with fruit buds this time, so that there is every prospect of a good crop this year.

The trees are nailed and protected with nets, which are hung over them, to counteract the influence of frost, should any occur. I do not adopt the old-fashioned plan of unnailing the trees in the autumn and keeping them away from the wall until the flowers expand in the spring, as I have never yet been able to see the utility of it; besides, it is impossible to nail up again without injury to the blossoms, if nothing more. The principal varieties



FIG. 53.—ORCHIDS AT TAPTON COURT.

well as I could wish, and accordingly I set to work determined to improve them. It was in the month of March when I took charge, and finding them rather dry and unsatisfactory at the roots, but very well set with fruit buds, and having a good supply of liquid manure at hand, they were treated to several good waterings with it. I may add that the garden is not more than 2 feet deep in soil, which rests on a deep bed of gravel, so that drainage is rather too plentiful, especially in such seasons as 1893 and 1895. After the watering a good mulching of half-decayed stable manure was given to each tree to retain moisture about the roots. The result of these applications was highly satisfactory, for the trees set a good crop of fruit, which had to be thinned considerably, and which grew to a large size and coloured well—in fact, my employer told me one morning that during the more than forty years he had been here he had never seen such a dish of Peaches from the garden as those I had sent in the previous evening, and added, "You must have taken great care of them." This speaks well for the liquid manure applied during the spring and early summer. I will state further on how I took care of the fruit.

But my ambition did not allow me to stop at the watering, it extended to the roots and the border. Accordingly as early in the autumn as practicable I set to work with them—had the border carefully dug up two spits deep, got to the roots, lifted any that

grown are Hale's Early, which does not grow large; Royal George, Crimson Galande, two very good varieties, which colour well; two or three other varieties, besides Nectarines.

One of the troubles with these Peaches is the splitting of the stone, to obviate which I use the lime and wood ashes, there not being enough of lime in this light soil. I find also that ants and earwigs are very troublesome. The latter are trapped in Bean stalks. But in order to prevent these and other insects injuring the fruit I adopt a plan that my father practised when I was a boy to prevent wasps attacking his fruit, which is to wrap a piece of cotton wool round every fruit. Of course, it is a little trouble and takes time, but it pays where a limited number of, say, a dozen trees are grown, besides the cost is not great, as about 3 yards of the wool will be sufficient for that number of trees, unless they be very large. To have to carry out such a plan on a very extensive scale would mean a serious item, and other means might have to be resorted to. Nevertheless, I have proved it to be a capital system, and always practise it. Besides, it gives thorough satisfaction, for this was the care my employer spoke of.

I can endorse all Mr. Young has said about the glass copings, as I have seen very marked effects from their use, but it is not every employer who will go to the cost of such means of protection. A thin board about a foot wide may be used with advantage for a

few weeks in the early season, until all danger of frost is past. It should be so arranged as not to throw a shade over the trees. Thin tiffany or treble garden nets will have a beneficial effect in warding off the effects of later spring frosts. — W. WEST CHAPMAN.

OUR GARDENS.*

THE advantages and pleasures of a garden are so great and manifold that all classes, from the philosopher and statesman to the mechanic and labourer, generally acknowledge it. That great philosopher Bacon, the founder of our modern science, in his essay "Of Gardens" calls it "the purest of human pleasures, and the greatest refreshment to the spirit of man." Sir Wm. Temple, the wise and sagacious statesman and skilful gardener, to whom we owe some of our best Peaches, Figs, and Grapes, says, "The most exquisite deligh's of sense are pursued in the contrivance and plantation of gardens, which with the fruits, flowers, shades and fountains, and music of birds which frequent such happy places, seem to furnish all the pleasures of the several senses, and with the greatest or most natural perfection."

Our garden! How many meanings in that single word! But the garden which our hearts really love is no vast space of ground, but rather that limited enclosure which retains our soul's captive, like that little enclosure of a garden concerning which Virgil speaks—the quiet retreat of the good old man, to whom the vicissitudes of war had left but a small portion of his estates, and that not the best; yet it contained everything the agreeable and the useful—grass, vegetables, fruits, flowers, and even bees, with some venerable trees, with their pleasant shade. Well may Virgil writes in his "Eclogue":—

"O! fortunate old man, whose farm remains
For you sufficient, and requites your pains.
Behold yon sallow fence of sallow trees
Is fraught with flowers, the flowers are fraught with bees."

The famous Paradises of Persia were no more than this. In Persia the garden, even of the Shahs, are utilised to the utmost—not an inch of ground is wasted on any studied effect for grandeur; no tall trees, but a maze of narrow paths wound here and there among the orchard-like growth of trees and flowers. Everywhere flowers, and to this country we are indebted for a vast number of the flowers which adorn our bleaker climate, as it is from Persia Tulips, Anemones, Jonquils, and all the variety of Ranunculi are drawn, as well as the Violets, Lilies of the Valley, Pinks, and Narcissi, which seem so thoroughly our own; then the delicate Lilac; the Peach, with its shower of tinted snow; and finally, supreme above all, the Rose, so dear to the heart of all Englishmen. But these are the gardens of silence, where the oriental sits and converses with the sky overhead, the abiding place of the man who has nothing else to secure for himself.

In the Moorish garden we have an abundance of inanimate life, paintings and enamels of flowers. Internally mosaics and colonnades, all leading to the inner garden or patio, filled with heavy odorous flowers and intoxicating perfumes; and in the centre of all a miniature fountain, rising and falling with monotonous sound, hushes one to sleep, enervating and debilitating the physical and mental man—these are the characteristic gardens of Spain, Brazil, Chili, Peru. In Italy we have what we may term the marble gardens, in which we have architectural features, devised by the skill of man at the cost and sacrifice of the natural decoration which vegetation affords. We here have active life represented by statues in marble of animals in apparent motion crowding the flights of steps and balustrades, and here we find vegetation seem to carry out this ideal of marble, as the tall Box looks dry and austere, the Laurel glitters with its glittering metallic foliage, has built up solid hedges; in fact the trees harmonise with the architecture of the country, thus showing that Art has dominated Nature to the great loss of the gardens themselves.

In France we here find gardening in its restricted sense of growing Vines and flowers for commercial purposes developed to a high degree of excellence, but in the sense of a general interest in vegetation and a harmonious blending of the beautiful with the useful she is woefully deficient. Except in her larger cities, such as Paris and Lyons, gardening as an art is not cultivated, and even in such favoured spots the laws of Nature are ignored, as here we find that we have still the objectionable features of the marble gardens of Italy, its statuary of marble, toned down, no doubt, by the artificial jets and fountains of water spouting forth from marble mermaids, dragons, and such-like mythical marble representations of life, sharing only in a half-hearted and ungenerous manner with the true laws of Art taught by Nature. Then, again, in

Germany we have here that very mathematical precision of outline so characteristic of the German temperament. Here we have a curious labyrinth of dark trim avenues, into whose recesses sunshine rarely enters, thus adding shade upon shade, with the shadows of marble statues counterfeiting the plague of life, the comedy of life, adding funereal gloom to the scene which makes one instinctively fly from its presence. From the foregoing you will have come to the conclusion that our Continental friends are far and away behind England in their love for country life and sports, by their ignoring all the natural laws of laying out a garden.

Nowhere do we find that love for country life, and gardening in particular, more manifest than in England, as, no matter where we may wander, the eye is continually struck with cottages embowered among fruit trees, shrubs, and flowers, so pleasing to our artistic sense, and in addition we have similarly situated those cultivated patches of toothsome vegetables which supplies so much of the food for the inmates.

Englishmen have always loved nature and solitude, and have adapted their ideals of a garden to their murky skies and the variableness of its climate as their guides, and from this has evolved the undulating lines and the blending in the true artistic spirit of Nature herself. The practical and the ornamental lines of our gardens, which never jar on our higher susceptibilities, but provide that repose and shade for exhausted nature which we, as inhabitants of this great city, so greatly need, and as frequently crave for as a comfort and solace for our exhausted energies.

To whom do we owe this peculiarity of our English garden? I am sure you will all be delighted to hear that it was due to a Yorkshireman. William Kent, born in 1685, was the pioneer of our modern landscape gardening, which he made more natural, graceful and pleasing by breaking up the old stiffness and uniformity by throwing wood, water, and ground into the beautiful lines presented by Nature, in the charm of running water, the freshness of the sward, the beauty of the flowers, and the grouping of their woods, where the deer are at home, and aquatic birds find a resting place, thus giving it that animation and life so absent from the gardens of other countries.

The poet Pope is said to have greatly influenced Kent in his ideas on landscape gardening, and undoubtedly in his garden at Twickenham, near London, where he resided, he consecrated his garden as a monument of affection to his mother, to whom he was passionately attached, as well as a retreat for his own solitude in communing with Nature. The dense shadows of the long Cypress avenues which lead to his mother's tomb proved too dull and melancholy for his temperament, so he longed for a living symbol of a gentler sorrow for his grief, so he introduced into his garden at Twickenham, from the East the Weeping Willow, which since the Psalms of Jewish captivity has associated itself with our human griefs and sorrows. And this solitary tree has been the ancestor of all our western Willows. We have Pope's ideal of a garden well word-painted in the following lines from his Moral Essay Poem:—

"Consult the genius of the place in all
That tells the waters to rise or fall,
Or helps the ambitious hill the heavens to scale,
Or scoops in circling theatres the vale;
Calls in the country, catches opening glades,
Joins circling woods, and severs shades from shades;
Now breaks, or now directs the intending lines,
Paints as you plant, and as you work designs."

Such is Pope's ideal of a garden where, under an uncertain sky, the invisible mist makes every outline undulating and vague, thus showing that the landscape must accommodate itself to the surrounding scenery, as not being blessed with an excessive light such as Italy and France enjoy, we are justified in admitting it into broad open spaces, and by undulating curves giving full play to all their sweet variety and beneficial effects. Such is the English garden fashioned by the only great artist, Nature, in its gaiety so young and changeable, and so full of happy surprises.

What are the advantages which the individual gains from the pursuit of gardening as a pastime? Such a question you may ask me to define, and I will briefly state a few of its prominent advantages.

- 1, Training of the intellectual faculties.
 - (a) Cultivation of the several senses.
 - (b) The necessity of accuracy of mind.
 - (c) The power to systematise and classify.
- 2, The greater restorative power of mind and body by exercise in the open air; in other words, "Health."

[The Doctor spoke at considerable length on the advantages referred to under the headings on this page. It is an admirable essay in its entirety, the portion that we could not insert, as referring to field sports and outdoor life generally, containing words of wisdom, the result of close observation by a thoughtful man.]

* Abridged from an Essay given by Dr. CAMPBELL at a meeting of the Walkley Amateur Floral and Horticultural Society, Sheffield.



ROSE RANUNCULOIDES.

FOR covering stems of trees, fences, walls, or rambling over pillars, this Rose is one of the best. It is nothing unusual to see growth in one season attain to a length of 10 feet, especially where the soil is of a heavy character. Being an evergreen Rose is much to be preferred to the ordinary deciduous sorts. During the summer it blooms most profusely in clusters, so much so that a plant growing in a southern aspect is literally smothered with white flowers. From cuttings this Rose is quickly increased, if half ripened shoots are firmly inserted in the open ground in September. By the following year plants 6 feet high are attainable.—S. P. H.

ROSE OLD TUSCANY.

Now that single flowering Roses are likely to take a prominent position in the embellishment of gardens intending planters should not omit the above variety. It is perhaps one of the oldest of Roses, but most beautiful, the bright crimson blooms are 6 inches in diameter. It roots freely from cuttings, and flowers the first season.—S.

MARÉCHAL NIEL AND PERLE DES JARDINS.

A CONTROVERSY without bitterness is almost as rare as a Rose without thorns. "H. D." and I do not, in our opinions regarding the value of certain familiar varieties of the queen of the garden entirely harmonise, but that does not prevent us, I am gratified to find, being friendly in our attitude towards each other; for that love of Nature in which we equally participate is a beneficent stream of tendency making for peace. It also tends strongly towards the ultimate realisation of knowledge and of truth. Most writers would have regarded me as a microscopic critic and resented my interference, but your contributor, while manfully and effectively combating my theories, terminates his article with expressions of generous praise.

I admire his advocacy of Reine Marie Henriette, which certainly has great attractiveness when in bud or half-blown, but when fully expanded loses half its charms—at least for me—and so far as I am concerned he may continue to entitle it "The Red Gloire." It is perhaps after all as fair to do this as to call Augustine Guinoisseau the White La France; for the purity of the latter, however greatly it may have benefited by the law of heredity, is somewhat stained, yet the relationship in the one instance is considerably closer, as I have previously indicated, than it is in the other; for Augustine is a veritable child of the fairest and most fragrant of all Hybrid Teas, while Reine Marie is only a granddaughter of the venerable Gloire de Dijon (I presume that in the case of "Pedigree Roses" such phrases, when accurately descriptive, are admissible. And in any case they constitute a variety in the form of expression and lend material assistance in breaking the long monotonies of horticultural terminology).

Your correspondent exhibits Homeric courage in his fearless comparison, in the face of all the great British rosarians, of Perle des Jardins with Maréchal Niel. How would the former compare with the latter magnificent variety if placed anywhere near it, both rows being exhibited "in the highest possible phase of their beauty" at the Crystal Palace show? Could the colour of this pearl of great price, however beautiful, be compared in the matter of delicacy and artistic perfection with that of the loveliest, in my estimation, of all Noisettes? I greatly fear that the Perle des Jardins would not be regarded by all authorities as the pearl of the exhibition.

That Perle des Jardins is hardier than its more highly endowed rival, and perhaps also more productive when grown in the open air, I cannot doubt. The former has also, unquestionably, as "H. D." insists, a more perpetual habit, which gives it great value as a garden Rose; but in form and complexion, if not also in fragrance, no yellow variety with which I have the privilege of being intimately acquainted approaches Maréchal Niel. It would be worth while growing it, as I do in my garden, if only to see it, in all its imperial majesty, once in several years. Its greatest limitation is undoubtedly its extreme susceptibility, by reason of its satin-like texture and closely folded petals, to atmospheric influences. A cold, wet, sunless season it cannot tolerate, when it has reached its full floral development, and is expanding into the massive grandeur and glorious realisation of the perfect flower.

Perle des Jardins comes considerably later, usually at a period when the weather is much more favourable; and it has also the advantage, compared with Maréchal Niel, of a greatly longer but not more gracious reign. Our greatest earthly glories, such as those of the rainbow, the sunrise and the sunset, are always short-lived, and so it is also with that Empress of Roses.

My supreme favourites among yellow Tea Roses are Medea, Madame Hoste, Princess Beatrice, Madame Chedain Guinoisseau, and Marie Van Houtte. The colours of these are as beautifully varied as those of the Gorse, so much loved by Linnæus, varying from the brightest saffron to the palest primrose.—DAVID R. WILLIAMSON.

ROSE CULTURE.

THIS was the subject of a paper read by the Rev. Alan Cheales before a recent meeting of the members of the Reading and District Gardeners' Mutual Improvement Association. Needless to say the lecture was of the most practical and interesting character, and was enlivened by witty sayings and pleasant lines of poetry, with tales of the ardent and disappointed exhibitor. The subject was exceedingly appropriate at this time when, taking into consideration that the National Rose Society, in conjunction with the Reading Horticultural Society, will be holding its show at Reading in June next. Mr. Cheales commenced his paper by saying that it had long been his wish to make the acquaintance of the Association, yet when he received the kind invitation from the Secretary it was with some amount of trepidation that he accepted, as he knew he would have to speak to practical men; still, he yielded to no one in his devotion to the queen of flowers, and he could give them an experience, as a grower and exhibitor, extending over thirty years.

When he delivered a lecture on "Roses" before the members of the Reading Literary and Scientific Society he devoted himself entirely to the literary and scientific side of the question and not so much to the practical part. Therefore, when coming to speak to practical men he decided to treat the subject from a practical standpoint; thus his paper would really be "Rose Culture." By desire he would divide his paper into two parts, so that discussion could take place at the middle and end, thus insuring all points being thoroughly discussed.

Roses in General.—Preparing the Ground, Planting, Protecting, and Pruning.—Many valuable hints were given under the various headings, the following being specially worthy of notice. The ground should always be well prepared for Roses, as no other flower answered so readily to kind treatment. November was considered the best month for planting. Hybrid Perpetuals would stand 20° of frost and Teas 10°. Earthing-up was certainly the best protection for Teas. Hard pruning always gave the most excellent results. For H.P.'s, the last week in February he found the best time, and the last week in March for Teas. For climbing Roses the knife should be spared as much as possible.

The second part of the lecture was devoted to propagating, hybridising, and obtaining blooms for exhibition. The quickest results were obtained by budding, but attention should be given to the raising of cuttings and seedlings. A few years back France was to the front with seedling Roses, but latterly England has rapidly come to the front, and far outstripped her neighbours across the sea. Cuttings should be inserted in October, and if all went well they would make nice little plants for planting out the following June. As to the best Roses for exhibition, he would refer them to Mr. Mawley's annual audit in the *Journal of Horticulture*, but for the best six Roses for all purposes (three H.P.'s and three Teas) he would give them Marie Baumann, A. K. Williams, Mrs. John Laing, Maréchal Niel, The Bride, and Souvenir d'Elise Vardon. Reference was also made to Hybrid Teas, which seems to be the Rose of the future—Climbing, Bourbon, Austrian Briars, Sweet Briars, Noisettes, and Lord Penzance's seedlings.

The lecturer concluded by strongly urging as many as possible to compete for the valuable prizes at the forthcoming Rose show, and trusted that Reading would do credit to the most popular of flowers. The interest was greatly enhanced by the beautiful collection of flowers that was brought by the following members:—Mr. Turton, Maiden Erleigh Gardens, Roses of various varieties and Violets; Mr. Bright, Whiteknights Park Gardens, a large bunch of Maréchal Niel Roses; Mr. Hobbs, gardener to W. B. Williams, Esq., Caversham, Maréchal Niel and Niphotos Roses; Mr. Lees, gardener to Mrs. Marsland, The Wilderness, Violets; and last, but not least, some grand specimens of *Primula obconica* by Mr. Townsend, gardener to Sir William Farrer, Sandhurst Lodge. A hearty vote of thanks was accorded to the lecturer and to those members who had brought the flowers.

[A delightful (because so diversified and poetical) paper, read last October before the Reading Literary and Scientific Society by Rev. Alan Cheales, is published in manual form by Messrs. Langley, Reading. We shall refer to it again.]

VEGETABLE MARROW CULTURE.

LIKE Tomatoes, Vegetable Marrows are not grown so much as they should be. Large rough-growing sorts with fruits like cattle-feeding productions are not likely to make anyone grow them for frequent use in the kitchen, but some of the small-fruited varieties are so suitable for the dinner table, and so excellent in flavour, that when once they are fairly and rightly introduced no one would allow a season to pass without having quantities of them. In sending vegetables to the kitchen some years ago we were never asked for a second supply of the large Marrows, but since the small ones have been sent in they are put on the bill of fare repeatedly, and many of them are preserved for winter use. No Vegetable Marrow for the table should be more than 2 lbs. in weight. If two or three times the weight of this they will be coarse and tough, and void of the true pleasing flavour.

In raising young Vegetable Marrow plants a slight heat, such as that afforded by a gentle hotbed or frame, is a great assistance in germinating the seed and pushing forward the young plants; but when the season has advanced so far as this they may be raised under a hand-light or in the open, and plants of all descriptions should now be daily exposed to the air, as a few weeks hence they will be planted in their fruiting quarters. This may be on a manure or refuse heap, as they do exceedingly well on such positions, and they will also succeed on small

mounds placed on a south border or any other sunny position. When the compost in which they have to grow is made up chiefly of manure the plants produce thick stems and large leaves in it, but this is not the way to get fine fruits or plenty of them.

Robust growths and astonishing productiveness are never associated, but moderate growths and heavy crops may easily be produced. To accomplish this the soil should consist of turfy loam or common garden soil, with a small quantity of horse droppings added, and in this it will be found that the plants will make hardy short-jointed wood with small leaves, and one or more fruits at every joint. Many who have seen our Marrow plants with the fruit clustering along the stems wonder why they are so prolific, but it is solely the result of stinting them at the roots. Plants poorly supplied with feeding at first come into fruit very much sooner than those which make a large quantity of soft growths before a fruit is formed.—GARDENER.

NOTES ON VIOLETS.

THERE is, perhaps, no Violet equal to Marie Louise for continuous flowering. Unfortunately, however, if left outside it does not stand severe winters well enough to flower freely in the spring. Lady Hume Campbell is much hardier, and flowers profusely outside. It is worth growing in frames, and forms a capital succession in pots to Marie Louise. The Czar we use for supplying leaves and for the main supply of single flowers outside. When planted in different aspects a long succession of bloom is maintained, the latest from north borders. As a single variety of good colour and fragrance this old variety is not readily surpassed.

To grow Violets well in frames artificial heat, either derived from hot water pipes or supplied by the aid of fermenting material, is not necessary. The latter may be employed if it prove necessary to push some plants into flower quickly, but when they are needed over a long period it is neither essential nor advisable to use it. When heat from hot water pipes is employed, however carefully it may be used to exclude frost, the plants soon become a prey to red spider and aphides, which quickly render them useless.

In April, as early in the month as possible, we follow one of two methods, and sometimes both, in the preparation of plants for the following season. The first is to lift the plants from the position in which they have been growing. The whole of the soil is shaken from the roots and the strongest crowns selected. These are planted outside on a north border 1 foot apart, the crown only being left just above the ground. If we have plenty of these rooted plants we do not trouble about cuttings. If, however, we are anxious to increase the stock cuttings are inserted in light sandy soil in a cold frame, which is kept close and shaded from the sun until the cuttings are rooted, when they are hardened and placed outside.

The border on which Violets are planted is dug in the autumn and exposed to the pulverising influences of the atmosphere. In the spring as planting proceeds a good dressing of old Mushroom-bed refuse is incorporated with the soil, which as a rule works well, and the manure is mixed with it to a depth of 6 inches at least. From the time of planting, except in showery weather, the plants are syringed twice daily or sprinkled over by means of a rosed watercan. Unless the weather prove exceedingly dry this is ample to keep them clean and growing, but during spells of drought a good watering or two in addition may be necessary.

From the time the plants begin to grow the hoe is frequently used amongst them to prevent the growth of weeds, and assist the plants in making good growth. When the plants grow freely they commence flowering in July, and continue to do so until the time arrives for lifting. Whether they are benefited by the removal of the flowers is an open question. At one time we removed them, now we do not trouble to do so unless they are wanted, and we have observed very little difference. We, however, remove all runners as they appear, which results in larger and bolder crowns. The time to lift the plants depends on circumstances and the time the plants are needed in flower. The earlier the plants are lifted the earlier they become established and flower. For instance, those lifted early in September flower freely during November and December; those lifted towards the end of the month flower in January and February. We lift the whole of our plants during the month of September.

The position selected is a sunny one, except a few for late flowering, which have a more shaded position, light, but where the sun's rays during the winter do not reach them. These rarely flower until the others are nearly over. For the past two years we have utilised the front of outside Vine borders for Violets. Temporary frames are formed at the front of the borders. The plants are lifted with good balls, and practically stood on the surface of the border. It is sometimes necessary to lower the base of the balls to prevent the foliage crowding on the glass when the lights are placed over the plants. We aim at having the plants as close as possible to the glass without the foliage touching. The plants as they are stood on the border are surrounded with soil, which is pressed firmly about the plants, care being taken not to bury the crowns.

After placing the plants in their flowering quarters, if the soil is on the dry side a good watering is given. If, on the other hand, moderately moist, the plants are syringed lightly twice daily, and shaded for a few days from the sun until they begin to root afresh. The lights are placed over the plants from the time of planting until established, when they are removed. If the weather continues fine the lights are left off day and night, syringing still being practised. In case of frost or heavy

rains the lights are placed over the plants. If frosted growth is brought to a standstill, which must be avoided. If drenched with heavy rains and severe weather follows the foliage is liable to damp. During slight frost the frames are protected with oiled canvas covers, later with two mats thick below the covering, and during severe weather with sufficient litter from the stables above to exclude the most severe frost.

By protection from frost and abundance of air we have succeeded in having a good supply of Violets whatever the weather has proved to be. During the severe weather of 1895 we gathered blooms sufficient for eighteen buttonholes every morning.

During the mild weather of December, January, and February last the plants have done well, the blooms being fragrant and of the very darkest shade of colour, equally as good as when flowered outside.—W. BARDNEY.

LILY OF THE VALLEY FOR FORCING.

AS is well known this plant is a native of the British Isles, and some of the best I have seen growing in a wild state were in the West of Scotland, where, in the early days of my gardening career, I have often been to the woods and lifted large masses of them, which were placed in boxes in the forcing house. Although rather a primitive way of growing them this usually resulted in a great crop of foliage and very few flowers, but as there were no imported crowns to hand at that date the flowers were acceptable during the early spring months. On an East Yorkshire estate many acres of Lilies grow wild in the woods, but the individual flowers are small. The plants appear to have deteriorated, as the majority of the spikes will not average more than four or five blooms each. In the South of Ireland and also in Wales I have found them in a semi-wild state, but I concluded they had been planted at no distant date.

There is no plant that will respond more readily to cultivation than Lily of the Valley, but as there are good and bad varieties it is advisable to grow only the best for early forcing. For this purpose the Berlin variety is the one to choose, and when once a stock of plants is obtained they will increase rapidly. Gardeners as a rule do not devote as much attention to their cultivation for forcing as their merits deserve, but rely chiefly on imported crowns, whereas I am convinced they may be grown equally well in this country if only worked on the right lines. But growers must be prepared to adopt a different system of cultivation to that followed by their forefathers, whose usual practice was to plant a bed of them in some out-of-the-way corner of the kitchen garden, where they were left to take their chance, often not being disturbed for many years. No wonder there were more leaves than flowers, and the latter small and insignificant, and, from a fairly wide experience, I am inclined to the belief that there is very little change in the majority of gardens at the present day. As this is the period of the year in which a start should be made in their cultivation, a few notes on the subject may be of interest to those who are anxious to extend their culture.

It should be remembered that it is the three-year-old crowns that will flower—i.e., the small offset or young growth that was formed last summer will require growing two more years before it will bloom. In lifting the plants from a bed that has been made two or more years, there will be found growths or crowns of three sizes. These must be carefully divided and placed in their sizes, and with a little practice the flowering crowns may be easily distinguished from the others. In many instances two crowns will be found close together, and if sufficient roots cannot be obtained for both one should be rubbed off.

They grow much better and make finer crowns if planted out in light sandy soil than in cold, heavy land. It is an advantage to grow them in the full sun, in drills 9 or more inches apart, and 2 inches between the plants, slightly covering the crowns with soil. Keep the beds clear of weeds, and should there be a spell of dry weather before they have fully matured their growth a good soaking with liquid manure will be an advantage.

In the following autumn the three-year-old plants may be lifted, placed in pots or boxes in readiness for forcing, and will be found to equal, and in some instances to excel, the imported crowns. The same operation as to dividing the different growths must again be strictly adhered to, or the crop of flowers will not be satisfactory.

As showing the quantity that may be worked up from a small beginning, I have for several years saved the plants of the imported Berlin variety that were not cut down when gathering the flowers. These were gradually hardened and planted out singly as above, and at the present time I have several thousand spikes of bloom in various stages of development, and upwards of sixty thousand crowns planted out in beds for future use.

When we take into consideration the millions of plants of this variety alone that are annually imported into this country for forcing, it shows the fabulous sum that is paid for plants that may be grown equally as well in many parts of the British Isles as on the Continent. If those who have suitable land would take up their cultivation on the above lines a great deal of the money that is now sent abroad might be circulated among our own workpeople.—S., *Yorks*.

REFRIGERATED LILY OF THE VALLEY.

In the leading article, on page 222, "A Worker" asks, in reference to refrigerated Lily of the Valley crowns, "Is there any just cause or impediment debarring us—private growers—from sharing the benefits of the new and novel procedure?" This is not altogether a new procedure, and there is no reason why cultivators should not obtain these crowns if

they wish to do so. Nearly anything, I should say, could be sent to these refrigerating places for a trifling cost, and brought back again when required.

Upwards of two years ago I purchased some of these refrigerated crowns, termed an early flowering variety, from a nurseryman; and if I could obtain them, I do not see why others cannot do the same. To give the trade a fair chance, the crowns should be purchased in early autumn, and instructions given about storing and arrangements made to forward when required. Better still would it be to procure crowns in the ordinary way, and send them to a refrigerating establishment. —W. B.

TECOPHYLÆA CYANOCROCUS.

THE flowers of which "Nemo" send specimens are those of a most beautiful Chilean bulbous plant. *T. cyanocrocus* has flowers of a brilliant blue colour, a rich and pure tint that is very rare amongst cultivated plants, and though of small growth it is a favourite with many who have tried it. A light sandy loam suits it, and it requires to be grown in a cool house or frame. The variety *Leichtlini* (fig. 54) requires similar treatment, and is distinguished by its flowers being white in the centre, edged with blue, and very fragrant. In some favoured districts these bulbs might be grown out of doors, but it is not a safe experiment in most places, and under any circumstances the flowers cannot develop so well as they do under glass.

GARDEN PESTS AND ANTIDOTES.

(Continued from page 242.)

SCOLECIDA.—This class of animals include several divisions, and amongst them the *Nematelmia* or round worms, and in its orders that of *Anguillulidæ* or so-called "vinegar eels," with some members of which Cucumber and Tomato growers are not unfamiliar. They are microscopic, as regards those parasitic on plants, and considered hard to kill.

INSECTA.—A great class of animals, articulate, and in the perfect state possessing six legs, two antennæ (feelers or horns), and a body divided into three distinct regions—the head, thorax and abdomen, the second bearing the organs of motion. The mouth varies; some have it adapted for sipping nectar, as the probosces of butterflies and moths, others for suction, as the bees and host of others that drain the plants of their life blood, as the aphides and chermes; others again have it fitted for biting and chewing, as the beetles, and some for both biting, chewing, and sipping, as the cockroaches. The eyes are compound and sessile, and in some cases simple eyes added to them aid the vision. All are unisexual, males usually smaller and more brilliant, and there are other differences indicative of sex, such as antennæ and feet (tarsi).

Insects pass through four stages—egg, larva, pupa, and imago. Most of their growth is effected in the larval state, and on the food depends the stuntedness or fulsomeness of the insect (I have a caterpillar of the Codlin moth from a haw which is not one-sixth the size of another from a Kent-grown Apple). Some insects, however, only pass through three stages—egg, younger, and perfect form; and a few also make shift with two stages. The egg is usually deposited externally, hatches quickly, while in other cases it is deposited at one period of the year and hatches at another. The larva is small and greedy, grows fast, casts its skin or moults several times, and after each is very ravenous.

Sometimes the larva is a caterpillar (three pairs of fore legs, always a caudal, and generally other claspers); others are grubs (three fore legs but no claspers), or it may be a maggot (legless). Of course, the same larva is not all three, but always one—caterpillar, grub, or maggot. In the bugs, cockroach, dragon fly, and thrips, the larva is very much like what it will attain, but it changes the skin, though it does not assume a different form from the pupa stage. Most, however, assume a new form from the larval state, becoming encased and lying dormant and nearly motionless for some time, often months, until the last change takes place. In some instances the hardened skin is covered with a cocoon, and so passed in anticipation of the change.

Such is a brief outline of the various pests of the animal kingdom that beset the cultivator in the growth of useful crops. All have different life histories; no one knows them better than the observant gardener, and, as a rule, has so little to say about them. He sets them all at defiance, having at his command effective fertilisers, which so act on the grubs in the soil, and on the eggs and pupa, as to insure soil cleanliness, and by supplying the elements the plant needs for its nutrition, fortify it against disease. This advantage chemical fertilisers have over natural manures—they furnish nothing that feeds vegetarian insects, but on the other hand kill many, in some cases most, and in not a few all the current pests of crops lurking in the soil. In no other country are our manure dealers so alive to the interests of the farmer and gardener as in England. It rests entirely with cultivators whether they will take advantage of their opportunities or otherwise.

Then there is the question of insecticides. Their name is legion, and of their components we know far less than of fertilisers, for there is no guarantee needed in their case, and they may be anything. There are, however, several of which the name alone is a guarantee of safety and efficacy. Besides, many have stood the test of years, and are as certain (and often cheaper) as those of the operator's own compounding. More, they are handy, and in many cases not otherwise obtainable, except by

a process of manufacture costing more than the stuff is worth, and after all of unknown strength and uncertain efficacy.

I think it necessary to make these remarks as preliminary to a series of articles on the destruction of insects—a very wide subject, and one not likely to be exhausted while cultivation lasts. There is no need for it in Nature, where checks to increase maintain an even balance, but it is different when man supplants natural by artificial cultures. —G. ABBEY.

(To be continued.)

FUCHSIAS FOR CONSERVATORY DECORATION.

THE value of the Fuchsia for conservatory decoration during the summer and autumn months is so well known that it is quite unnecessary to occupy space with dwelling on its merits, so I will at once proceed to give cultural details which I trust may be of interest to some readers of the *Journal of Horticulture*. There is nothing new to be said about rooting the cuttings, though it may not be out of place to observe that those taken from plants which have been started in a gentle warmth will



FIG. 54.—TECOPHYLÆA CYANOCROCUS LEICHTLINI.

root more freely than others taken from plants that start into growth without artificial aid. The most important point is to root them quickly. Insert the cuttings in March, and place them in 3-inch pots directly they are rooted, keeping them growing briskly from this time until coming into flower. A light and rich compost, consisting of equal parts of loam, peat, and decayed cow manure, with a liberal addition of silver sand, will be found suitable.

To promote a free, healthy growth, a temperature of about 60° to 65°, accompanied with abundance of humidity, and a slight shade during the hottest part of the day, will be necessary. In watering use clear tepid water until after the last shift, when the pots become full of roots, and then give abundance of weak liquid manure, which should be made from sheep or cow manure. I would strongly recommend that they be trained pyramid-shape, as plants when trained in this way have a lighter and more graceful appearance than when grown in bush form. It has been my good fortune to have had sole charge of a collection of these beautiful decorative plants in an establishment where they were grown largely for exhibition as well as for decoration, and I may say that it is a sight not easily to be forgotten, as when the plants are in full bloom they resemble at a short distance a fountain in full play. Some varieties will form well-shaped pyramids with very little stopping, but others must have constant attention to insure handsome specimens. I have made note of the fact that the older varieties as a rule make the best shaped plants, though a few of the newer ones may be grown well if attended to closely.

To grow these plants to the height of 3 feet by the beginning of the month of August from cuttings rooted in March is comparatively easy if the lines here laid down are closely followed by the cultivator. A good place to store the plants when at rest is a fairly dry cellar or under a stage in the greenhouse, taking care that they do not become too dry at

the roots. Fuchsias that have attained to the above mentioned size should make grand specimens some 6 or 8 feet high the second year. When being started into growth in the spring they must be pruned back slightly and potted straight away into 12 or 14-inch pots. I would not advise that they be grown after the second or third year, as young healthy plants are much superior to old specimens.

The following is a selection of twelve of the best varieties to grow for making good specimens, although there are many others well worth cultivating in a large collection, but are not of so good habit—Avalanche, Beauty of Trowbridge, Gazelle, Improvement, Lye's Excelsior, Lucy Mills, Lustre (improved), Mdme. Jules Chrétien, Rose of Castile, Rose of Denmark, Venus Victrix, and Wave of Life.—H. T. M.

NOTES ON HARDY FRUITS.

PRUNING AND TRIMMING—CANKER.

IT is somewhat late to write about general pruning, but there are several apparently small but really important matters connected with the operation which may be seasonably noted. At no time of the year is the damaged tissue of fruit trees more quickly restored or more readily healed than in the period when growth is commencing, and for this reason I always make a practice of carefully examining all the trees under my charge at the present time, no matter when the pruning was performed.

If there has been any past carelessness, jagged cutting, leaving too much wood above the buds, or other effects of hurry or oversight, the evils can be in some measure remedied now. A sharp knife and a steady hand, so that clean surfaces only are left exposed, will insure an effective healing before the sun is powerful enough to seriously dry the substance of the branch or shoot. Another advantage follows from this attention—namely, the removal in many cases of the eggs of insects, which are frequently found between the bark and the wood where long snags have been left; but care must be exercised to collect and burn the whole of such trimmings—in fact it is better, where trouble has been experienced with insect enemies, to never allow the severed wood to fall to the ground, placing it at once in a handle basket for removal.

Where there is evidence of canker also I prefer the spring months for excision, cutting away the diseased portion down to the living bark and wood. If the tree be vigorous and the disease is restricted to a few places on the branches complete healing may result in one season; but if it is in a more advanced stage on the main stem the recovery is slower, because the wound is of necessity deeper. It is now well established that the minute parasitic fungus *Nectria ditissima* is the attendant upon if not the actual cause of the disease, and spraying with a proved fungicide becomes needful in addition to the surgical operation advised. Sulphate of copper or Bordeaux mixture, which has been proved efficacious in Potato disease, and several others of fungoid origin, is also beneficial for canker, either painting the cut surfaces or spraying the whole tree in the ordinary way before the buds expand. By attention to the improvement of root conditions and the matters already explained it is possible to prevent the extension of canker, though it may not always be possible to restore a badly affected tree.

NITROGENOUS MANURES FOR FRUIT TREES.

The clear and concise remarks of "Azota" (page 283) upon this subject greatly interested me, and I hope will be the means, as my first note stated, of inducing some discussion, and concentrating more attention upon an important subject. Perhaps I might illustrate my view of the service rendered by nitrogenous manures by two practical examples. First, in potting a strong growing plant we employ a compost that, as nearly as we can judge, contains all the essentials for its development; but if there are subsequent signs of partial exhaustion, or at a time when there is likely to be a strain upon the plant's resources, either of flowering or fruiting, we supply a stimulant in the shape of liquid manure with considerable advantage. Of course this liquid contains more than nitrogenous aid, but there can be little doubt that it is to the ammonia we are chiefly indebted.

The other example was furnished some years ago in a season when I had many thousands of *Lobelia*s to raise from cuttings, and a very small stock to start with. Some of the varieties were in one house, and others in an adjoining one, separated only by a partition, the conditions as to heat, light, &c., being identical. In one of these the paths and pipes were daily sprinkled with weak diluted liquid manure, and in this case more than twice the growths were obtained in the same period of time, though the varieties were equally free in habit under ordinary circumstances. My view of this was that a portion of the ammonia evaporated during the day was deposited from the air at night both on foliage and soil, reaching the roots in a readily assimilable form.

In the case of fruit trees we require a fertile soil, which should contain the substances named by "Azota;" but if from any circumstances leaf development is checked, or insufficient for the subsequent health of the tree, nitrogenous manures will give the stimulus that is needed to tide over the difficulty. Whether it is wise to wait for this exhaustion before applying sulphate of ammonia or nitrate of soda is another question, but it seems more reasonable to endeavour to prevent it by smaller and regular applications. Judgment must be exercised in this as in all other matters connected with gardening, and we have much to learn on the subject of manures.

Where chemical manures are employed for fruit trees or plants erroneous conclusions are frequently arrived at from employing too

large quantities. In a recently published work I was surprised to see the following mixture—*i.e.*, kainit (five parts), magnesium sulphate (two parts), and superphosphate (two parts), recommended to be applied to Plum trees at the rate of 7 lbs. per tree after pruning, and 22 lbs. in March, on an area equal to the spread of the branches. Allowing 4 square yards per tree for young specimens, or 16 for older ones, this is an enormous application per acre. Is it a mistake, or what was the result of such a course of manuring?

APPLE HORMEAD PEARMAIN.

Can any reader tell me anything about the origin of this excellent Apple? Dr. Hogg, in his most valuable Manual, mentions the synonym Arundel Pearmain, but does not state whether it is known in Sussex by that name. Perhaps Messrs. Cheal may have some knowledge of it. I have formed a very high opinion respecting its merits as a culinary Apple. It is a medium size, very even in shape, slightly conical; the eye is shallow, and it becomes a clear yellow tint, without, in my case, any tinge of colour whatever. It is as firm, juicy, and pleasantly acid as anyone could desire at the present time, and will keep for another month at least. The tree is moderately productive, and appears to be quite hardy.

PEAR NAIN VERT.

I find that this variety was raised from seed over fifty years ago, and has been tried since 1859 for dwarfing purposes, and M. Leroy mentions having a specimen of Belle Angevine eight years old on this stock, which remained very dwarf, and still produced very large fruits. No tidings have, however, reached me that it is grown in England now.—BRITISH GARDENER.

TABLE DECORATIONS.

IT is not often that I take up my pen with the intention of attempting to pose as a critic, but the bare idea of seeing coloured paper recommended as a covering for pots placed on the dinner table slightly upset my equilibrium, so I gave "O. M." the merest hint that his able article in the "spring number of the *Journal of Horticulture*" would have been better—more high-class I mean—had it contained no reference to that detestable crinkled paper.

I am glad to find by his reply (page 277) that he considered my criticisms to be "very mild." It could scarcely be otherwise, "O. M.," for I had read not long before that charming contribution about the delights of spring from the pen of "The Missus," and I felt in a particularly "gentle" frame of mind; that temporary gentleness has now departed, and given place to alertness, for I notice "O. M." is falling back on the favourite resource of trying to prove how impracticable my suggestion is, except for the favoured few. Now, I am bold enough to assert that nine-tenths of the gardeners who have much table decoration to do, find no serious difficulty in obtaining moss in abundance. Although we use an enormous quantity annually, the whole of it is obtained from a shady corner of the park, not more than 4 acres in extent; we have no need to draw on the woods for a supply.

Next I have to deal with the peculiar assertion that moss-bound pots are "too formal." If so, how much more strongly does the remark apply to a vase, cup, or bowl! As a parting shot we are told that "crinkled paper" can be used to be very effective. I will not for a moment disparage the effectiveness of it, but it is altogether out of harmony with high-class decorations. A paper collar is effective in its way, but could anyone wearing such reasonably claim to be considered well dressed? I trow not, and I know there are many who would not tolerate "crinkled paper" on their dinner table. Do without it, "O. M.;" its use is a blemish on your art.—ON-LOOKER.

ANY writer of an article in a special number lays himself open to rather severe criticism, as in such instances notes are read with more than usual interest. Enough has been already written about the special number of the *Journal* to show that the unique effort was fully appreciated. Now, I read the special number through twice—the first time only scanning the work of able pens and the second going more into detail, and I am sure the various writers will forgive me if I add with some views of criticism.

In reading over the notes from "O. M." on table decorations, I was much struck with the great point he made of the use of crinkled paper for hiding pots used for the adornment of dinner tables. Nor indeed have I since been surprised to see that his remarks have called forth several short notes of criticism.

"O. M." even goes so far as to recommend the various shades of paper suitable for different plants; well, there may perhaps be some little in that, especially if the Editor could see his way to circulate the article amongst waitresses in restaurants whose idea of harmony between foliage and paper is certainly sufficient to make one look on the latter article from a decorative point of view as something to be beneficially dispensed with. "O. M." however, may have a superior faculty for blending natural artificial decoration so as to produce an effect congenial to refined tastes; happy is he if such is the case, as he can give his brother gardeners a long lead in that branch of the art. In these days of elegance and informality in decorations the use of paper for hiding pots on the dinner table seems to be something quite out of character—something that has been, but is now shelved among other relics of old days.

The mention of tinted paper reminds me of the Oddfellows' Club dinner at a village inn I was once in the habit of attending. There crinkled paper was used to an almost unlimited extent by the landlady

when decorating the tables with plants, lent from the Hall gardens for the purpose, and it is only fair to add that by many of the club members the paper was admired as much as the plants.

But with refined aristocratic tastes, and even those of the present-day decorator, the case is very different, especially in the adornment of an evening dinner table, when attempts are generally made to dispense with as much as possible that is artificial, replacing this with something more natural. Green moss is universally admitted to be the best article for effectually hiding pots used in dinner-table decorations, but here arises another difficulty. Many decorators not having this resource at hand, as suitable moss does not grow everywhere, some other means have then to be resorted to. Perhaps "O. M." had this in mind when advocating the paper, but could not something else be used? I have found pieces of cork bark reared loosely round the pots, with bits of light greenery stuck in the interstices to be effective, without that degree of artificial gaudiness which characterises the use of coloured paper, besides being an easier way of attaining the desired end. If "O. M." has not tried this means he may perhaps be induced to do so, and would not, I think, be disappointed. The rest of "O. M.'s" able article I shall not attempt to criticise; indeed, I should not have been induced to pen these notes at all, had it not been so highly flavoured with coloured paper.—CRITIC.

CUCUMBER DISEASE.

A PHENYLE FAILURE.

WHEN one thinks of the comparative ease with which Cucumbers grow and come to perfection under ordinary circumstances, and even in some instances without what are usually considered necessary conveniences, it is, to say the least of it, disappointing and disheartening to have had every known requisite likely to lead to success, and yet have to be condemned as something worse than useless.

The Cucumber disease first showed itself with us in a particularly virulent manner during the winter of 1894-95, plants put out in September, 1894, dying in the following November, after producing about half a dozen fruits amongst them. Previous to this we had been troubled, but not so seriously. In the winter of 1893-94 we lost all but one plant, which, grown on the extension system, eventually covered the whole roof and fruited well, giving us an abundant supply of Cucumbers.

At the beginning of last year Little's soluble phenyle was tried as a preventive. This was used according to directions—a wineglassful to a gallon of water, applied to the soil before the plants were placed in it, and twenty-five drops to a gallon were used to growing plants. During the summer the roots of these plants appeared to swell into a dense fibreless mass, yet we had fair fruits until August, mainly, I think, through weak fortnightly doses of phenyle.

At the beginning of last August we sowed as usual for winter work; the houses were thoroughly cleansed, the soil and everything connected with the future crop undergoing a thorough disinfection with phenyle, and we looked forward to an abundance of fruit of good quality; but despite the continued use of phenyle, we had to clear out one house in the beginning of December. This was a house of Telegraph. A later lot of Lockie's Perfection managed to keep growing, and bore a few fruits till the new year. Since then they have been an eyesore, and refused to grow. We may, I suppose, be allowed to call this only a partial failure, but nevertheless we are far from being satisfied with the result. Phenyle has had a thorough trial, having been used without stint according to directions, and at one time it was thought the difficulty was at an end; but we have not yet conquered the enemy, and should like to know what the phenyle adviser of the *Journal of Horticulture* has to say on this case.—BY-THE-SEA.

SAXIFRAGA STRACHEYI.

THIS plant will only give disappointment if anyone attempts to cultivate it as a hardy flower; it is by no means new. Nicholson, in his "Dictionary of Gardening," says it was introduced from the Western Himalayas in 1851; it is growing here in quantity in various parts of the gardens, but I have never had a spike half as good as the one figured on page 280, and presume that it was grown under glass. Occasionally in sheltered positions it opens a few flowers, but in most instances it is absolutely disappointing, as its flower spikes come out of the old leafless stems as if afraid to get away from the ground and look more like a species of fungi than flowers; the slightest frost turns it brown, and there is an end of it. The foliage appears after the flowering is over, but is killed as soon as severe frost comes, being in this respect much more tender than *S. crassifolia* or *S. cordifolia*. One of the prettiest varieties is *S. ligulata*; it is of smaller growth than *S. cordifolia* and others, and has the merit of being much lighter in appearance. The flower spikes are much the size of the one figured on page 280, and of a deep pink colour when first expanding, fading to a softer tint with age. The foliage is somewhat tender if severe frost occurs, but does not all disappear like that of *S. Stracheyi*. Both kinds are in flower here now (March 28th), being much earlier than others of this class.—W. H. DIVERS, *Belvoir Castle Gardens, Grantham*.

[Relative to the hardiness of *Saxifraga Stracheyi* we find that an expert on hardy flowers communicated the following note to the *Journal of Horticulture* in April, 1883:—"This is perhaps the finest of the Himalayan Saxifrages, at least, of those introduced to our gardens. It

is a great pity indeed that it will not quite endure our climate without some protection, such as is afforded it by a frame; but its beautiful thyrsoid trusses of flowers are far more handsome when they expand in a cool house. I am sure it is a very excellent plant for the decoration of the cool greenhouse, while the graceful curvature of the primary and secondary branches of the spike is very effective. I have flowers on one spike which measure $1\frac{1}{2}$ inch across, pure white, with red glistening discs and red stamens."]

GROWING CELOSIAS.

NOW is a good time to sow *C. pyramidalis*, *aurea* and *rubra*, when the plants are required to bloom in the autumn. They are not grown in as many gardens as they deserve to be, and this perhaps may be attributed to the many worthless varieties that are sent out under the above names. We are fortunate in having a good strain of *Celosia pyramidalis*, and we make it rule to save seed from none but the best varieties, and by so doing we have seldom a worthless plant in our collection. We sow the seeds in pots about the beginning of April, and plunge them in a bottom heat of 80° until they have germinated, after which they are removed to a shelf near the glass in the propagating house, where they remain till they are ready to be pricked off into pots or pans. We use a compost of equal parts of loam, leaf mould, and peat, with a good sprinkling of river sand added, and the pots or pans are again plunged in bottom heat for a few days until the roots have taken to the soil.

We then remove the plants to the shelf near the glass, keeping them well watered and syringed until they are placed in 4-inch pots. The compost employed then is equal parts of loam, leaf mould, peat, and cow manure, with a dash of rough silver sand. They must not be allowed to become root-bound at this stage or they will flower prematurely. If practicable, we keep the pots half plunged, and when this cannot be done we stand them on a moist bottom, which saves watering, and also benefits the plants. When dwarf specimens are required we pinch the points out of the plants when they have grown 3 or 4 inches high, but we seldom practise this system. We allow the plants to grow vigorously, and can always manage to keep a good succession of bloom by employing pots of various sizes for flowering the plants in. The sizes range from 6 to 10 inches, but the latter should only be used when large specimens are required. An 8-inch pot we find most serviceable for ordinary plants.

The *Celosia* grows best in a light house with a warm moist atmosphere, as few plants are more subject to the attacks of red spider, and they must be carefully watered at all times, never allowing the soil to become dry. Excessive watering should be equally guarded against to prevent souring the soil, as few plants will show signs of ill-health sooner than these when over-watered. When the pots are full of roots the plants are greatly benefited by weak liquid manure applied at every alternate watering.

They should always be supplied with clear water before applying the liquid manure, as the roots are easily injured by strong supplies, and the water must always be about the same temperature as the house in which the plants are growing. After they begin developing their feathery inflorescence they can be gradually hardened before being placed in the conservatory, where they will continue for a long time in bloom. Their culture is simple, and when well grown they have few equals either for their flowers or as decorative plants.—PRACTICE.

EDGINGS TO GARDEN PATHS.

WELL made and neatly kept paths are an adornment to any garden. If the edging to the path is not in keeping with the trim character of the path itself, and in harmony also with the surroundings, then the actual result is not so satisfactory as it might be. In the pleasure grounds where grass will grow no edging can equal this in appearance. Under trees, or on sites that are not favourable to the growth of grass, other edgings would be more suitable, such as Irish Ivy, *Berberis aquifolium*, *Euonymus radicans albo-marginatus*, and *Erica herbacea*. All are evergreen and amenable to close annual pruning if required, and each has a pleasing appearance during the dull days of winter. As an edging plant for an unfavourable site the first named is perhaps the most suitable; its growth is quick, and provides in a short time a dense edging. The month of March is perhaps the most suitable period to plant any of those named.

The preparation of the soil is important; deep digging and manuring are essential details of success. If the soil is heavy and retentive a compost of decayed leaves, vegetable refuse, and road grit would render valuable aid in inducing the free formation of roots the first year.

In the kitchen garden, or alongside Rose and herbaceous borders, grass is not always desirable. In the former no edging can equal Box when properly planted and methodically attended to. If it is badly planted to begin with, and improperly managed afterwards, no one can be surprised if Box as an edging falls into disrepute. If the path is an incline the edges should be on a "running level." The Box itself is too often planted in pieces much too large. A properly planted edging of Box ought not to be more than 2 inches high, and half as much in width at the base, be perfectly straight, and exhibit no "swanks," as hollow places in the edge are termed. The welfare of the edging when properly planted for the next ten years at least rests entirely with the person in charge.

Instead of Box ; stones, tiles, or strips of wood are commonly in use. These "dead" edgings, as they are frequently termed, are uninteresting, although they may be serviceable. Edgings of this character can be made attractive by covering them with some hardy flowering or foliage plant. Where flint or other stones are plentiful a miniature form of rockery can be constructed and made thoroughly interesting. Even with a single row of stones much variety is practicable. They should be set 3 inches deep, preserving a perfectly straight edge next to the path. Any irregularities in the stones themselves on the opposite side will be hidden by the plants.

Among spring flowering plants the following are desirable—*Anbrieta purpurea*, *A. Leichtlini*, *A. Hendersoni*, Double Red and White Daisies, *Gentiana acaulis*, Pansies, dwarf growing *Myosotis*, coloured Primroses, and *Iberis correaefolia*. What may be termed summer flowering kinds are *Violas*, Pinks, *Armerias*, dwarf growing *Campanulas*, such as *pumila*, *p. alba*, *turbinata*, *pulla*, and *G. F. Wilson*. *Heuchera sanguinea*, *Phlox* of the setacea type, *Saxifragas* in abundant variety, with their low growth and freedom in flowering cannot be omitted. *Veronica prostrata*, with its mass of brilliant blue flowers and low dense habit of growth, ought not to be overlooked. In addition to the above there are many suitable plants beautiful in foliage only—*Sedum glaucum*, *S. Lydium*, *S. acre elegans*, *Herniaria glabra*, and *Veronica repens*.—E. M.

THE SHAMROCK.

AN Irish correspondent questions the accuracy of our reply to "Nemo" on page 290 last week, as to *Oxalis acetosella* being the original Shamrock. Though we indicated that *Trifolium minus* is the plant now regarded in Ireland as the Shamrock, the following references from "The Wild Flowers of Great Britain" are not the less interesting. They were the result of considerable research by the late Mr. G. W. Johnson :—

OXALIS ACETOSELLA.

SYNONYMES.—*Sorrel Oxalis*, Bentham's Handbook, 149. *Cuckoo-bread*; *Sour-sorrel*, English. *Gowk-meat*, Scotch. *Suran y coed gyffredin*, Welsh. *Biadh-eunain*; *fiada-coille*, Gaelic. *Seamsog*, Irish; also *Alleluja*.

With the exception of Jerusalem being popularly corrupted from Gierasole, the Italian for "Follower of the Sun," and connected with the tuberous-rooted Sunflower, our Jerusalem Artichoke, no greater contortion of a word ever occurred than in calling the Wood Sorrel Alleluja! It is merely a corruption of its Italian name *Juliola*. It is also called Cuckoo-bread in England, and Gowke-meat in Scotland, because it blooms about the time of that bird's arrival. Sour Trefoil, another of its popular names, alludes to the acidity and form of its leaves; Wood-sour also alludes to its acidity and place of growth; and Stubwort to the last particular only.

The generic name *Oxalis* is derived from the Greek *oxys*, sour, and *ala*, salt, an acid salt, oxalate of potash being obtained from its juices; and the specific name, *acetosella*, is the same, only the derivations are Latin—*acetum*, sour, and *sal*, salt.

The word Sorrel is derived from the Anglo-Saxon *Sur*, sour, and its Danish name *Syre*, and its Welsh name *Suran*, have the same allusion to its acid nature.

We are strongly of opinion also that it is—

"The chosen leaf
Of bard and chief
Old Erin's native Shamrock."

An early writer, Sir Henry Piers, in Vallencey's "Collectanea de Rebus Hibernicis," says, "Between May-day and harvest, butter, new cheese, curds, and Shamrocks are the food of the meaner sort." Now, Wood Sorrel is an agreeable salad herb; whereas Clover or Trefoil, which are usually considered as the Shamrock, are anything but palatable.

Another authority, the "Irish Hudibras," published in 1689, says of the Irishman :—

"Shamrogs and watergrass he shows,
Which was both meat, and drink, and close."

A description more applicable to the Wood Sorrel than to Clover.

Then Fynes Morrison writes of his countrymen, "They willingly eat the herbe Shamrock, being of a sharpe taste," a description applicable to the Wood Sorrel, but not to any species of *Trifolium*. Moreover, the Clovers never grow in woods; whereas the Wood Sorrel has there its native place, and coincident with this the "Irish Hudibras" states—

"Within a wood near to this place,
There grows a bunch of three-leaved grass,
Called by the boglanders Shamrogs,
A present for the Queen of Shoges (spirits)."

These authorities, we think, justify our conclusion that originally the Wood Sorrel was the Shamrock of ancient times; nor is it difficult to explain why the White Clover (*Trifolium repens*) is adopted as its substitute. When, in the olden times, the country was covered with forests the Wood Sorrel abounded; but now that the land is cleared of forests and is better drained, the Clover is more abundant, and the Wood Sorrel comparatively rare. The Clover, therefore, was readily accepted as the national plant to be worn on their saints' festivals; for, in conformity with the legend, nothing more was needed than that the plant should have three leaflets equal, and united at one point to one

stalk. The legend is that when St. Patrick landed near Wicklow, and unfolded to the semi-barbarous natives the trinitarian doctrine, they objected to its incomprehensibility. In illustration of the doctrine he plucked a Shamrock, and retorted, "Is it not as possible for the Father, Son, and Holy Spirit to form one Deity, as for these three leaves to unite upon a single stalk?" St. Patrick prevailed, and the Shamrock was adopted as the emblem.

The *Acetosella* is totally inodorous, but has a grateful acid taste. In its medical effects it is refrigerant, antiscorbutic, and diuretic. It is recommended by Bergius in inflammatory, bilious, and putrid fevers, and to restore an appetite for food. The principal use, however, of the *Acetosella* is to allay inordinate heat, and to quench thirst. For this purpose, a pleasant whey may be formed by boiling the plant in milk. An essential salt is prepared from this plant, known by the name of Essential Salt of Lemons, and commonly used for taking ink-stains out of linen. It is the bin-oxalate of potash; 20 lbs. of the fresh leaves yield about 6 lbs. of juice, and from this may be obtained about 3 ozs. of the oxalate.

"THE GROVE," HARBORNE.

AMONGST the numerous aristocratic suburban residences of Birmingham one of the most charming is The Grove, at Harborne, owned by William Kenrick, Esq., M.P., who represents the Northern Parliamentary Division of Birmingham. The estate was purchased by Mr. Kenrick about twenty years ago, since when it has been subjected to considerable improvement, especially in a landscape point of view, by the late Mr. Milner, the celebrated landscape gardener, and it reflects much credit on his taste and ability in having so well taken advantage of the geographical features of the domain. Various improvements also have been added from time to time by the appreciative owners—Mr. and Mrs. Kenrick. The estate is situated on a gentle slope, with a southern aspect, and from which an extensive and interesting view of the Clent and Frankly ranges of hills is commanded. The principal entrance to the grounds is in close proximity to the Harborne and Selly Oak highway, whence the carriage drive leads, with a bold serpentine outline, through a park-like field to the mansion, about 300 yards distant. The mansion is a picturesque and massive structure of a modified Gothic style of architecture, and is internally replete with all that art and wealth can produce.

Reverting to the lodge entrance, the outside boundary of the grounds diverges to the right and left therefrom, and is occupied by a well established belt of trees and shrubs, thus affording an excellent screen from the public road. A large proportion of the shrubbery belts in question is faced with a wide bordering of hardy herbaceous flowers and alpines, so that altogether, and combined with the undulating character of the ground, a very pleasing effect is produced. A gravel walk runs parallel with the whole, and a horizontal barred iron fence affords protection from the cattle. A similar provision is accorded to the carriage drive. Midway between the lodge and the mansion is an ornamental lake of a river-like outline, a portion of it being overstretched by a rustic wooden bridge. The lake is further adorned with edgings of clumps of evergreen shrubs and herbaceous plants and flowers suitable for the position. A prominent feature amongst the shrubberies are healthy masses of *Rhododendrons* with borderings of *Mahonia aquifolia*. Pleasingly disposed about the grounds are naturalised groups of *Daffodils* and *Crocuses* in variety. In close proximity to the south-western façade of the mansion stands a flourishing, many-limbed, upright-growing Cedar of Lebanon; otherwise the grounds are not remarkable for fine specimens of *Coniferae*, probably owing to climatal conditions. A tall specimen, however, of *Abies nobilis*, located close to the carriage drive, may be noted, more as to its height than density of growth. The Austrian Pine, which serves materially in the formation of the belt of the boundary trees already mentioned, succeeds admirably.

There is no formal parterre, and the numerous beds are disposed here and there about the charming lawns with pleasing effect. A considerable space, however, is devoted to herbaceous flowers, whilst Alpines are a marked speciality with Mrs. Kenrick as much as are Orchids with her brother, the Colonial Secretary. Before leaving the pleasure grounds it would be an omission not to remark that the view of the mansion from the towers and south-west portions of the grounds is delightfully imposing.

The well-stocked fruit and vegetable garden is comparatively small for the requirements of the family, so that the extra supply is procured elsewhere. Contiguous to the mansion is a commodious span-roofed conservatory and a charmingly furnished "Pulham" rock fernery conjoined, in which several remarkably strong and healthy *Rex Begonias* afford a striking contrast to the Ferns, *Ficus repens*, and other suitable plants. The conservatory at the time of our visit a short time ago was very gay with *Cinerarias*, *Cyclamens*, *Hyacinths*, *Tulips*, *Azaleas*, *Clivias*, *Lachenalias*, *Hippeastrums*, *Chorozema cordifolia*, and special mention must be made of one or two exceedingly well-flowered specimens of *Dendrobium nobile*. Cut flowers are greatly in demand, and must often try the somewhat limited resources at the command of Mr. William Eades, the painstaking and competent head gardener. Supplementary to the conservatory are two good and commodious span-roofed stove and cool greenhouses, a "lean-to" vinery, and a small span pit. Of Orchids there is only a small but select stock, and amongst the rest of the numerous denizens of the greenhouses we noticed a stock of Sutton's strain of *Cyclamen*.

We had nearly forgotten to mention the existence of a fine old specimen of *Platanus orientalis*, whose wide spreading weird-looking

branches, reminding one of some gigantic tentacled sea monster, form a striking object in the landscape in rear the lower end of the carriage drive. In conclusion we may remark that not the least feature connected with everything under the supervision of Mr. Eades was that of order and neatness, and that during the twelve years or so since he entered their service he had continued to enjoy their confidence and esteem.—W. G.



FRUIT FORCING.

Peaches and Nectarines.—*Earliest Forced Trees.*—During the stoning process the trees must not be hurried. Regulate the growths for future bearing. Tie the growths to the trellis as they advance, and those more than 14 inches in length that are not extensions may have their points pinched off. When the stoning is completed the fruits will require regulating for the swelling period. On no account tax the trees unnecessarily with more fruit than can be brought to maturity. Inside borders must be kept properly watered, mulching the surface with partially decayed manure. The temperature may be increased to 65° to 70° at night, and in the daytime 70° to 75°, maintaining 80° to 85° or 90° through the day by sun heat; ventilate from 75°, and close early with plenty of atmospheric moisture. The very early varieties will soon give indications of ripening, when syringing must cease.

Trees Started at the New Year.—The fruits are swelling rapidly where they have been properly thinned, and the shoots having been reduced to the proper number need heeling in. This must be carefully performed, not bringing them down too sharply, taking care to leave sufficient space in the ties.

Trees Started Early in February.—Maintain a night temperature of 55° to 60° in mild weather, ventilating from 65°, permitting an advance to 70° or 75° from sun heat, but with free or full ventilation. Disbud early so that displacement can be readily effected by means of the finger and thumb. Leave one shoot at the base of the branches now bearing, and another on a level with or above the fruit; the latter not being required for extension must be stopped at a few joints of growth. In the case of trees not fully grown leave shoots about 15 inches apart, calculating from the base of last year's growth, to form the bearing shoots of next year. Thinning the fruits may commence as soon as those properly fertilised can be ascertained by their taking the lead in swelling.

Trees Started Early March.—A genial atmosphere may be secured by damping the paths in the morning and early afternoon, but do not syringe the trees until the flowering is over. The night temperature should be 50° in mild weather, falling 5° to 10° through the night in severe weather, 50° to 55° by day, and 65° from sun heat, with a free circulation of air. Aid fertilisation of the blossoms by some approved means in the early part of a fine day. Let there be no deficiency of moisture in the inside border, giving a thorough supply of water when required.

Figs.—*Earliest Forced Trees in Pots.*—Figs ripening must be kept dry and but moderately watered at the roots. Trees swelling their fruits need full supplies of water and liquid manure until ripening commences, when a circulation of warm air will be necessary. The temperature must be maintained at 60° to 65°, 70° to 75° by day from fire heat, 80° to 85° with sun, admitting air or increasing it from 75°, closing the house early, so as to advance 5° to 10° afterwards.

Planted-out Fig Trees.—Perhaps more failures occur with planted-out Fig trees than any other fruit. This is usually a consequence of the trees being trained at too great a distance from the glass, but chiefly from growing too luxuriantly. Keep the growths fairly thin, and do not encourage too many spurs, keeping up a proper supply of successful growths to displace worn-out extensions. Avoid syringing the trees whilst in flower. A night temperature of 60° will be needed for trees started at the new year, 65° by day from fire heat, and 70° to 75° with gleams of sun, but 80° to 85° from the latter source should be secured with plenty of air, avoiding currents and sudden fluctuations or depressions.

Melons.—The earliest plants have set the fruit and are well advanced in swelling. Provide the needful supports in good time and earth the roots as they protrude, using good loam warmed and pressed down. Keep the bottom heat steady at 80° to 85°; this assists the swelling of the fruits, and early ripening is a great point in growing Melons. Night temperature 65° to 70°, 70° to 75° by day from fire heat, ventilating a little from that point and advancing to 85° or 90°, closing early to retain this to 100° well into the afternoon. Syringe moderately about 3 P.M. on bright warm afternoons, or soon after midday when the air is sharp. Damp the floors in the morning and evening. Supply water or liquid manure as required, it being better to under than overwater.

Plants coming into flower and during the setting period should only have water to prevent flagging, keeping the atmosphere drier, with an increase of temperature of about 5°, a circulation of warm air conducing to a good set, and if necessary a little air should be admitted at night to prevent the deposition of moisture on the flowers. When

the fruits are set and about the size of a bantam's egg give a thorough supply of water, having the soil for earthing up warmed, and in a day or two top-dress with rich turfy loam. Stop subsequent growths to one or two leaves, and avoid overcrowding by removing surplus growths. Later plants will need the growths trained regularly, removing the laterals on the stem to the trellis, then rubbing off every alternate lateral directly they are perceived, leaving the remainder on the right and left of the main stem, pinching the point of the primary stem after it has extended two-thirds of the required distance. Sow seed to raise plants for planting in pits and frames as they become cleared of forced vegetables and bedding plants, keeping the plants sturdy and not allowing them to become very much root-bound.

Cucumbers.—Attend to stopping and regulating the growth not less frequently than once a week. To keep the plants in steady progress and secure straight, crisp, tender, well-flavoured fruit a temperature of 65° to 70° at night, 70° to 75° by day artificially. 80° to 85° with sun, closing sufficiently early to run up to 90° or 100°, with abundance of atmospheric moisture, will be suitable. Ventilate early, but very moderately, avoiding sudden changes of temperature; cutting winds, and currents of cold air, cripple the foliage and deform the fruits.

Strawberries in Pots.—When the plants are in flower it is advisable to shake the trusses occasionally when the pollen is ripe, removing the smallest and least desirable. Thin the fruit directly there is a good swelling, leaving the member likely to mature perfectly of the largest size. Examine the plants twice a day for watering, affording liquid manure two or three times a week when the fruit is swelling. Steady progressive growth is most favourable for Strawberries until after flowering, then they swell better in a high temperature and moist but not very close atmosphere.

THE KITCHEN GARDEN.

Early Potatoes.—In order to have an early crop sets furnished with one or two strong sprouts should be planted. When they first push through the soil a slight frost injures the growths, and they ought, therefore, to be kept closely moulded up. It pays well in most seasons to provide additional protection for a breadth of early Potatoes on a warm border. A rough framework, strong enough to support either Russian or home-made straw mats, can easily be constructed, and if the Potatoes are covered every evening, uncovering as early in the morning as it is safe to do so, an early and good crop should result.

Maincrop and Late Potatoes.—Wet weather has greatly impeded the work of Potato planting, but there need be no concern felt about this. The ground for Potatoes cannot well be too freely worked, those planted on lumpy ground suffering from drought in a hot summer. If solid manure is used distribute it evenly throughout the ground and dig it in. Artificial manures are very effective, and these should be sown broadcast at the rate of from 6 lbs. to 8 lbs. per square rod. Soot is a good manure for Potatoes. The plan of "hitting out" the drills with a half mattock hoe is a good one, and after planting fork over and level. It will be found that uncut sets weighing about 3 ozs. give the best results, but larger tubers will bear cutting.

Chicory, Salsafy, and Scorzonera.—Early in April is a good time to sow seeds of these. All succeed well, forming good clean roots when sown on ground freely manured for a preceding crop of a surface-rooting nature. Shallow drills may be drawn 12 inches apart, and the seeds sown somewhat thinly. Any old roots still undug ought now to be lifted and stored in sand.

Globe Artichokes.—This should be a good season for Globe Artichokes, none of the stronger sucker growths or crowns having been injured by frost. They ought to be cleared of all protective material and then freely thinned out, leaving only three or four strong growths to each clump. Bare the surface roots to a distance all round of 2 feet from the growths, heavily dress with decayed manure, and then return the soil. Strong young plants produce the finest or most succulent flower heads.

Herbs.—There is plenty of Parsley in most gardens. If not already done seeds should be sown at once on good ground. The seeds are apt to be uncertain in germination, and if the first sowing does not come up satisfactorily lose no time in sowing afresh. Sage, Thyme, Basil, Borage, Burnet, Chervil, Fennel, Marjoram, and Marigold can all be raised from seeds. A rather warm border is to be preferred for these, and fine freely worked soil is needed. Open shallow drills 1 foot apart for all but Borage and Fennel, these requiring 6 inches more space, and there will then be no necessity to transplant other than where blanks occur. Sow thinly and cover with fine soil.

PLANT HOUSES.

Zonal Pelargoniums.—Cuttings may now be rooted for flowering during the autumn and winter. Select sturdy shoots, and insert them singly in small pots. They will root freely in any position where the temperature ranges about 60°. Do not insert small weakly cuttings. These are much better on the stock plants until they grow and gain strength. Do not let these draw up weakly in a shady place or in too much heat. They will grow sturdily in a temperature of 55° if fully exposed to light and a little air is admitted to them daily. If the old plants have been in their pots for a long time give a pinch of chemical manure on the surface of the soil. This will induce vigorous growth. Strong cuttings that have been rooted in small pots will soon flower if placed in 4½-inch pots and stood close to the glass in a temperature of 50° to 55°. They become drawn in too much heat, and the trusses are small in comparison to those allowed to develop gradually.

Clematis indivisa lobata.—Where this has flowered and the plant has covered the space allotted to it, the shoots that have flowered may be well pruned. Nothing is gained by allowing the plant to become crowded, but the reverse. The shoots should be trained thinly and fully exposed to the sun. A free use of the knife will induce the formation of robust growth, which should be encouraged, for on these next season's flowers will depend. This is a very effective and useful climber for the conservatory as well as the coolest structures. If the plant is infested with scale, syringe with a solution of petroleum and water at the rate of one ounce to the gallon. It is liable to the attacks of aphides, which are best destroyed by fumigating with tobacco. If the plant is confined at its roots, remove a portion of the surface soil and top-dress with equal portions of loam and decayed manure. A little chemical manure sprinkled over the surface before the top-dressing is placed on will induce the roots to come to the surface.

Greenhouse Rhododendrons.—These may be produced in succession by gentle forcing. On no account should they be hurried, or the flowers will fail to develop. The house in which they are forced may be kept moderately close and moist; no more artificial heat should be used than is necessary to maintain a night temperature of 50°. The syringe must be used freely to keep thrips in check, in fact these plants may be syringed from the time they show signs of movement. A dry base for the pots to stand on, and dry atmospheric conditions, are detrimental to these plants. They should have a cool moist base, and ought never to be allowed to become dry at their roots. Any shoots that are not flowering may as soon as they burst into growth have the young growths pinched out. This will induce them to make two or more shoots, the same as those that flower. The main stock of plants that are not wanted in flower may have cool airy treatment.

Daphne indica.—These succeed well if given the treatment advised for greenhouse Rhododendrons, in fact they should be grown in the same structure, and with care good specimens may be produced. These, like the above, are often ruined by the atmospheric conditions to which they are exposed. If they are too hurriedly forced into flower more harm than good results. These plants cannot long endure a close confined atmosphere. Liberal syringings they enjoy as well as abundance of air. No harm is done by closing the house early in the afternoon during the season of active growth. They should be fully exposed to the sun and watered with the greatest care. They must never be allowed to become dry, and, on the other hand, if they are overwatered and the soil rendered sour failure is certain to result. Any plants that need potting should be attended to at once. Drain the pots carefully and liberally; over the drainage a layer of moss must be spread before any of the soil is placed in. Perfect drainage must be insured. The soil may consist of good fibry loam, one-seventh of decayed manure passed through a fine sieve, and coarse sand—a liberal quantity of the latter should be used, and press the soil firmly into the pots. Plants that are in good condition at the roots and are straggling through neglect may be well cut back. They will break freely, and in two years make healthy flowering plants. Shoots that fail to flower must have their points removed just previous to flowering, then the whole of the shoots start in growth at the same time.

Daphne Mezereum.—This is beautiful in pots for flowering indoors early in the season, and for this purpose should be grown in pots the whole season. When the plants are lifted annually from the outside and placed in pots for forcing a good stock of plants is necessary. When once the plants are established in pots they grow freely afterwards and flower profusely every season; all the attention then that is needed after flowering is to harden the plants carefully and plunge them outside.

THE BEE-KEEPER.

FOUL BROOD.

THERE have been various notes, sarcastic and otherwise, going the rounds of the daily papers during the past few months on this subject, and from a report of the annual meeting of the British Bee-keepers' Association, lately held in London, the fact was mentioned "that the proposed bill with regard to foul brood was in a forward state, being then in the hands of the Parliamentary draftsman preparatory to being laid before the County Council Association Parliamentary Committee, and that the members should use every means in their power to bring the matter before the members of Parliament for their boroughs and counties, and urge upon them the necessity of the bill being passed, so that those in whose hands the power lay might know something of the matter, and the importance of it. Out of 670 members of Parliament a large number had never heard of foul brood and many knew nothing of bees. The same might almost be said of County Councillors."

The latter remark is rather hard on the chosen C.C.'s. But what are the powers that some bee-keepers and others are so anxious to place in the hands of the C.C. or some other authority? My own opinion is, if bee-keepers would only use due care, and manage their bees on rational lines, very little harm would happen from this scourge.

Fortunately I reside in a locality where foul brood is unknown, but will illustrate what I mean from facts that came under my own observation not many years ago, which shows there is just cause for complaint among bee-keepers in some districts. A had two stocks of bees in straw skeps, both died from foul brood. The following season a swarm of bees was placed in each of the hives, the old comb remaining; these were sold to B, residing a few miles away. No wonder on visiting the district the following year I found it a hotbed of foul brood, as during the time the bees were dead the hives were allowed to remain in the open, and were duly visited by the neighbouring bees for the stores they contained.

This would have been a case where outside intervention would have been beneficial to all bee-keepers within a radius of at least two miles; and if the hives, combs, and all sundries connected with them had been burnt as soon as the disease was discovered a great benefit would have followed instead of the reverse, as the sequel shows.

Others I have found who have shouted loudly about their losses from foul brood who have themselves been most negligent in their manipulations with foul-broody stocks. But until one has an opportunity of seeing a draft of the proposed bill it would not be wise to either advocate or condemn its principles.—AN ENGLISH BEE-KEEPER.

TRADE CATALOGUES RECEIVED.

Charles Van Geert, 11, Rue de la Provence, Nord, Antwerp.—*General Catalogue of Trees, Shrubs, and Hardy Flowers.*

W. Clibran & Son, Altrincham.—*Treasures of the Garden and Conservatory.*



* * All correspondence should be directed either to "THE EDITOR" or to "THE PUBLISHER." Letters addressed to Dr. Hogg or members of the staff often remain unopened unavoidably. We request that no one will write privately to any of our correspondents, as doing so subjects them to unjustifiable trouble and expense.

Correspondents should not mix up on the same sheet questions relating to Gardening and those on Bee subjects, and should never send more than two or three questions at once. All articles intended for insertion should be written on one side of the paper only. We cannot reply to questions through the post, and we do not undertake to return rejected communications.

The Tomato (J. G.).—The Tomato, *Lycopersicon esculentum*, was introduced to this country in 1596 from South America. We cannot say how long it has been grown as a market product, but on turning to a list of Covent Garden prices in September, 1863, we find Tomatoes quoted at 2s. 6d. to 5s. per half-sieve.

Potatoes for "Pommes Frites" (J. V. B.).—There is no mention of any special variety as grown for the purpose indicated in Vilmorin's work on vegetables, but a connoisseur, who is also a vegetarian, informs us that Myatt's Ashleaf is one of the best for "frites." We suspect if the favourite continental Kidney Bean, the Princesse, would succeed in this country it would have been grown long ago. Why not try a row, not sowing till the ground is warm, or the middle of May, and favour us with the result? In quality this Bean is excellent.

Soil for Cacti (F. R. D.).—Good ordinary fibrous loam should form one-half of the compost, the other half being made up of broken bricks, lime rubbish, and sand in equal parts, the whole to be carefully mixed, and not used until it is moderately dry. Perfect drainage is absolutely necessary. A good-sized crock should be placed over the hole of the pot and about one-third of its depth filled with drainage material, or even more when for raising plants from seed. In the case of these discriminative management is imperative, the soil being studiously watered, as anything like a saturated condition causes the seedlings to decay at the base, this being accelerated by using leaf mould or other substance of a moisture forming or holding nature, besides frequently containing parasitic micro-organisms, which are particularly fond of Cacti. In repotting remove nearly all the old soil, taking away dead or decayed roots that may be observable, placing some of the roughest soil next the crocks, and gradually fill the pots with the finer material, well working the same amongst the roots, and finally press the soil moderately firm. Do not water for a few days after potting, but syringe towards the evenings of bright days. If the small pots are plunged in damp material there will be the less need of frequent waterings to the advantage of the seedlings.

Vine "Eyes" (B. C.).—The term "eyes," though well understood and admissible by long usage, is not botanically correct, and for the purpose of exactitude "buds" is the term to employ in this reference.

Growing Mushrooms (W. A.).—If the manure, including all the stained straw from a stable, is allowed to accumulate without being drenched by heavy rains, nor yet so dried that it will not ferment when thrown into a heap, it may be made up into a bed. But this is by no means the best period of the year for commencing, for assuming that Mushrooms are produced hot weather will probably have arrived, and maggots then invariably infest the crops if the beds are not in a very cool shed, cellar, or on the north side of a wall. Try your luck, and if you fail try again, commencing to collect manure towards the end of July or the beginning of December as may be the most convenient.

Disbudding Vines (Amateur).—Remove weak growths. When the laterals are firmly established in position and no longer liable to be broken in securing them to the wires, these laterals being about 18 inches apart, no fresh growths will be required between them, and it will be better for the Vines if there is none. Much harm is done by having too many growths from the main rods of Vines, this preventing the due expansion of the foliage, and when the leaves cannot develop under the full influence of light they cannot elaborate the crude sap supplied by the roots and store nutriment for the support of the Vines. Future growths are produced from the buds at the base of existing laterals after these are pruned in the ordinary course. It is desirable to make sure of the safety of the permanent laterals before removing all the superfluous growths.

Red Spider on Strawberry Plants (W. L.).—When red spider gets a footing on Strawberry plants under glass it is extremely difficult to destroy the pest without damaging the leaves and fruit. Much, however, may be done by judiciously syringing the plants with clear water, it not being safe to use any insecticide over the fruit, as there is always more or less stain. Some persons heat the hot-water pipes, nearly making the water boil in them, and then coat them thinly with a cream formed of flowers of sulphur and skim milk. This should be done when the air is calm, ventilation being given while the pipes are heating, and when all is ready, close the house and apply the sulphur with a brush. Fumes will be given off by the sulphur fatal to probably most of the red spider, and after an hour the pipes may be allowed to gradually cool. But we advise the syringing as the safer and better under the circumstances.

Culture of Angelica (New Reader).—Angelica grows well in any good soil, but succeeds best in cool and moist situations, and so should be accorded a position on a north border. It is raised from seed which may be sown now, or preferably in August, or as soon as the seed is ripe. The seed bed should be frequently watered if the weather be dry, also the young plants. If sown in the spring they should be thinned to 2 feet apart every way, allowing them to remain where sown, or if sown in August or September the plants should be planted in March 2 feet apart every way, keeping them free from weeds, and in dry weather affording plenty of water. The stalks will be fit for use in May or June of the following year, when the stems should be cut down so as to keep the plants from flowering and seeding, then they will live for three years, otherwise the plant is a biennial.

Figs Dropping (E. N.).—The Fig is very liable to cast its first crop of fruit, some varieties more so than others; but all are subject to it, and have been from time immemorial. This habit is alluded to in the Bible as "untimely," and is the more remarkable as Judea is a calcareous country, noted for its vineyards and Figs. The fruit in your case has not advanced to the flowering stage, and on examining it the flowers were found defective on the male side, but apparently perfect on that of the female, the ovaries and ovules being properly formed. In such case there could be no fruit, unless pollen were conveyed from another tree. This is accomplished by insects in some countries, and "caprification" artificially practised. This defect of the fructifying organs is the cause of the Fig turning pale at the apex, where, inside the fruit, the male elements mainly predominate, and are interspersed with the pistillate. Their activity, when perfect, appears responsible for the opening of the eye and the aërication of the pollen grains, which otherwise are impotent, for chemical reasons, of effecting fertilisation. There are no male organs of a fertile nature in your fruit, hence the turning yellow at the apex and ultimate dropping. The imperfect flowers is the result chiefly of mal-nutrition or some check during the embryonic formation of the fruit. The defect is the least pronounced where the plants are well provided with lime, not possibly from the nitrate of lime, but from the phosphoric acid that must result from organic remains or phosphate of lime, hence we find a good supply of this is a great help in the internal arrangements of the Fig and in other fruits. Indeed, we have known cases where dressings of superphosphate of lime have proved efficacious in preventing similar disasters in Figs, Peaches, Nectarines, and Melons, as it acts in a solidifying manner, neutralising the tendency of nitrogen to induce sterility, and thus promoting the energy of the reproductive organs. Calcareous soil is not enough—it must be a phosphate medium, therefore we not only advise a calcareous soil to supply nitrate of lime, but an addition of phosphate, which some soils yield naturally, yet others do not, and to insure a steady supply a firm soil and not too much of it is absolutely necessary. Then we find the Fig fruit freely under proper conditions, the steady development of the fructifying organs being assured by gentle progress, and no checks from climate or soil moisture. The ventilation may be at fault, but that is a matter of regulation. We advise the use of phosphate of lime, say superphosphate

top-dressings occasionally, or finely ground coprolites mixed with the soil, this being both calcareous and gritty, and above all things limited in amount and very firm, over thorough drainage.

Names of Plants.—We only undertake to name species of plants, not varieties that have originated from seeds and termed florists' flowers. Flowering specimens are necessary of flowering plants, and Fern fronds should bear spores. Specimens should arrive in a fresh state in firm boxes. Slightly damp moss, soft green grass, or leaves form the best packing, dry wool the worst. Not more than six specimens can be named at once, and the numbers should be visible without untying the ligatures, it being often difficult to separate them when the paper is damp. (*Dendrobie*).—The flower sent is a good form of *Dendrobium nobile*. (*Junio*).—Through delay in the post your specimens were too withered for identification; send fresh ones, and we will assist you with pleasure. (*A. B.*).—1, *Odontoglossum crispum*, good form; 2, *Dendrobium Wardianum*.

COVENT GARDEN MARKET.—APRIL 1ST.

THERE has been little change in the market during the past few weeks.

FRUIT.

	s.	d.	s.	d.		s.	d.	s.	d.		
Apples, per bushel	2	0	to	4	6	Peaches, Cape, per case ..	0	0	to	0	0
„ Nova Scotia, barrel	13	0		20	0	Pears	0	0		0	0
Grapes, per lb.	1	3		3	6	St. Michael Pines, each ..	2	0		8	0
Lemons, case	11	0		14	0	Strawberries, per lb. ..	8	0		14	0

VEGETABLES.

	s.	d.	s.	d.		s.	d.	s.	d.		
Asparagus, per 100	6	0	to	6	6	Mustard and Cress, punnet	0	2	to	0	0
Beans, per lb.	0	6	1	3	Onions, bushel	3	6	4	0		
Beet, Red, dozen	1	0	0	0	Parsley, dozen bunches ..	2	0	3	0		
Carrots, bunch	0	3	0	4	Parsnips, dozen	1	0	0	0		
Cauliflowers, dozen	2	0	3	0	Potatoes, per cwt.	2	0	4	0		
Celery, bundle	1	0	0	0	Salsafy, bundle	1	0	1	6		
Coleworts, dozen bunches	2	0	4	0	Seakale, per basket	0	9	1	3		
Cucumbers, dozen	2	0	4	0	Scorzoner, bundle	1	6	0	0		
Endive, dozen	1	3	1	6	Shallots, per lb.	0	3	0	0		
Herbs, bunch	0	3	0	0	Spinach, pad	0	0	4	6		
Leeks, bunch	0	2	0	0	Sprouts, half siv.	1	3	0	0		
Lettuce, dozen	1	3	0	0	Tomatoes, per lb.	0	6	0	0		
Mushrooms, per lb.	0	6	0	8	Turnips, bunch	0	3	0	9		

PLANTS IN POTS.

	s.	d.	s.	d.		s.	d.	s.	d.
Arbor Vitæ (golden) dozen	6	0	to	12	0	Ferns (small) per hundred	4	0	to 6 0
Aspidistra, dozen	18	0		36	0	Ficus elastica, each	1	0	7 0
Aspidistra, specimen plant	5	0		10	6	Foliage plants, var. each	1	0	5 0
Azalea, per dozen	18	0		36	0	Genista, per dozen	8	0	12 0
Cineraria, dozen pots ..	6	0		10	0	Hyacinths, dozen pots ..	8	0	12 0
Cyclamen, dozen pots ..	8	0		15	0	Lycopodiums, dozen	3	0	4 0
Daffodils, dozen pots ..	6	0		9	0	Marguerite Daisy, dozen ..	6	0	10 0
Dracæna, various, dozen ..	12	0		30	0	Mignonette, dozen pots ..	8	0	12 0
Dracæna viridis, dozen ..	9	0		18	0	Myrtles, dozen	6	0	9 0
Ericas, various, per dozen .	9	0		24	0	Palms, in var. each	1	0	15 0
Euonymus, var., dozen ..	6	0		18	0	„ (specimens)	21	0	0 0
Evergreens, in var., dozen	6	0		24	0	Spiræas, doz.	8	0	12 0
Ferns in variety, dozen ..	4	0		18	0	Tulips, dozen pots	6	0	8 0

AVERAGE WHOLESALE PRICES.—OUT FLOWERS.—Orchid Blooms in variety.

	s.	d.	s.	d.		s.	d.	s.	d.	
Acacia or Mimosa (French)					Narcissi, var., doz. bunches	0	9	to	2	0
per bunch	0	9	to	1	6	Orchids, various, doz. blms.	1	6	12	0
Anemone (French), doz. n					Pelargoniums, 12 bunches	6	0	9	0	
bunches	2	0	4	0	Primroses, dozen bunches	0	6	0	9	
Arum Lilies, 12 blooms ..	2	0	4	0	Primula (double), dozen					
Asparagus Fern, per bunch	2	0	4	0	sprays	0	6	1	0	
Azalea, dozen sprays	0	4	0	9	Roses (indoor), dozen ..	1	0	2	0	
Bouvardias, bunch	0	6	1	0	„ Tea, white, dozen ..	2	0	4	0	
Camellias, dozen blooms ..	0	9	1	6	„ Yellow, dozen (Nicks)	3	0	6	0	
Carnations, 12 blooms ..	1	0	3	0	„ Red, dozen blooms ..	3	0	6	0	
Cyclamen, dozen blooms ..	0	3	0	6	„ Safrano (English),					
Daffodils, single, doz. blms.	1	6	6	0	dozen.. ..	1	6	3	0	
„ double, doz. blms.	0	4	0	9	„ Pink, per dozen	3	0	12	0	
Eucharis, dozen	3	0	4	0	Smilax, per bunch	5	0	9	0	
Gardenias, dozen	2	0	3	0	Spiræa, dozen bunches ..	4	0	6	0	
Geranium, scarlet, doz.					Stephanotis, dozen sprays	6	0	9	0	
bunches	6	0	8	0	Tuberose, 12 blooms.. ..	0	6	1	0	
Hyacinths, dozen spikes ..	2	0	4	0	Tulips, dozen blooms ..	0	6	1	6	
Lilac (French) per bunch	3	0	5	6	Violets Parme (French),					
Lilium longiflorum, twelve					per bunch	4	0	5	0	
blooms	4	0	6	0	„ Ozar (French), per					
Lily of the Valley, 12 sprays	0	6	1	0	bunch	2	0	3	0	
Maidenhair Fern, doz. bchs.	4	0	8	0	„ Victoria (French),					
Marguerites, 12 bunches ..	2	6	4	0	12 bunches	1	0	1	6	
Myosotis or Forget-me-not,					„ English, 12 bunches	0	9	1	0	
dozen bunches.. ..	3	0	6	0	Wallflowers, dozen bunches	2	0	6	0	



SMALL SEEDS.

FORWARD as the season is not many Clover or Grass seeds will have been sown yet; but if a good plant of seeds for grazing in 1897 is a first consideration little time should now be lost. Small seeds never succeed so well as when harrowed in

with the corn, as they then get more deeply covered and have better root hold, and do not succumb so readily to drought as when harrowed lightly on the surface. This applies to light or medium soil.

Strong land, if there be but an inch of fine soil on the surface, will grow a good plant of Clover with certainty. Solidity of seed bed Clover delights in. A gateway where carting has made the ground as hard as a floor always has a good plant of seeds, better than anywhere else in the field, which proves that the seed bed cannot be too hard if only there be enough dust to cover the seed.

Rolling Barley immediately after drilling is very necessary where Clovers, &c., have been sown, as it must benefit them if not the corn likewise. Barley sown in a cloud of dust, harrowed in, Cambridge rolled, small seeds then hand-sown or drilled, and harrowed and rolled again, make an ideal operation if done quickly, so that rain does not interfere; then, with the gate safely shut, the cultivator may smile at all sorts of weather.

If land be very weedy, as some sandy soils almost always are, the weeds may compete so strongly with the Clovers as to nearly smother them. Where there is danger of this the sowing may be deferred until the corn is well up and fit to harrow. The harrowing will kill the weeds while still small, but the germination of the Clover is never so certain as when sown early; and though Oats may not be injured by harrowing, our opinion is that this treatment applied to Barley causes unevenness of growth, and therefore of sample.

If we could foretell with certainty the weather we shall have to contend with we should know exactly the best time each year for sowing Clovers; but as our knowledge is so limited, we can only say that experience advises, as proved by general practice, that early seeding as a rule, and bearing all points in mind, will answer best. It would require a large volume to describe the various mixtures of Grasses and Clovers most suitable to different soils and climates, and only an expert like Mr. Martin Sutton can adequately deal with such a wide subject; but one thing is certain, common seed of any variety—cheap, may be, but proportionately nasty—always proves the dearest in the long run.

Again, never buy mixtures—that is chance mixtures. If you want to sow White, Red, or Alsike Clover mixed, buy them pure, and then mix yourself. Not that we advocate a mixture of White and Red for sheep pasture, as the constant use of Red (even in small quantities) is apt to bring about "Clover sickness;" and if a crop of Red for hay should be required, a failure will most probably result. In fact, where a field or two of Red Clover is mown each year (say, one-fourth of the area under one year's seeds) we can strongly advise that Red should never be sown except for that crop. A little red *may* improve the sheep pastures in the other three courses, but it will certainly be at the expense of that required for hay. We have tried it thoroughly.

Alsike is very useful for pasture, and is hardy; but it has a tendency to get too long amongst the Barley in a wet season, and thus it adds materially to the difficulties of harvest. White Clover is the sheet anchor of the flock master, and now the Giant White has been introduced it should be more popular than ever. Giant White is not of such strong growth as Red, but carries a much heavier stock than ordinary White. Trefoil is useful on dry soils, and very hardy, but does not always suit sheep so well as other Clovers; it has, however, the reputation of being the greatest storer of nitrogen, but in these days the corn crop following is of such doubtful value as hardly to be worth consideration, at any rate if the well being of the flock is likely to suffer.

Giant Cow Grass will grow a heavy crop for cutting, but makes poor hay if allowed to get too ripe. A rather smaller crop of Red Clover would probably be of more value. Rib

Grass sheep are very fond of, and a small quantity in a mixture for grazing is desirable, but it is too sappy and slow in withering for hay-making purposes. Kidney Vetch has been much grown in Norfolk, and is good for poor gravel or blowing sand. It takes two years to get thoroughly established, and though it stands frost well as a young plant, severe weather during the second winter may destroy it all. Frosts excepted it is very hardy, and will flourish for four or five years where Clovers could not exist more than a year. Meadow Grasses we do not believe in for less than a three-years pasture, as the finer ones take time to establish; and the coarser ones, such as Cocksfoot, are, like Couch, easier to get than to get rid of.

We prefer Foster's Dwarf Italian Rye to Pacey's Perennial. Sheep will keep the former bitten close to the ground, whilst Pacey's will be running to seed. It is of no use to grow foods that animals will not eat.

WORK ON THE HOME FARM.

Forward Wheats are growing fast, and in many cases quite ready for the hoe. Let us hope the Thistle may not prove such a pest as last year; at any rate, if it is so, we cannot attribute it to weather difficulties. Oats and Barley are already peeping, and will grow rapidly in the present temperature.

We have lately seen land turning up very stiff and cold; this is probably owing to its having been ploughed wet in autumn, when there was no other work available. No saving of time has been effected, and the horses would have been much better in the stable. A very severe winter is apt to hide errors of this kind, but this one has been much too mild to do so.

Though Turnips are plentiful, straw is scarce, and with grass growing greener every day, cattle must be hardened off and ready for the pastures. If those from the open yards can be turned out for a few hours, those from covered, into open yards, and calves from boxes put in covered yards, a gradual all-round hardening will be effected with no risk. It does not pay to allow grass to grow to a great length before stocking. As long as there is sufficient, cattle always do better on a short pasture, where they almost have to wait for it to grow, than on grass 6 or 8 inches long, and there is infinitely less waste; on very dry land a good cover is often useful as a protection from drought, but soils such as these are not suitable for grass at all.

Potatoes are going on fairly well, but there is not the fine frost mould of last year, and they will certainly not have so good a start this season as last. Thousand-heads for autumn feed should be sown now; a few days' delay may make a great difference in the strength of the crop; they are excellent for lambs in October. They require a deep cool soil and liberal treatment, especially as regards phosphate of lime.

The fine weather and freedom from frost are having a very excellent effect on young seeds, and there is no present lack of food for lambs. Seeds intended for mowing are always better for being grazed until the middle of April. With a plentiful rainfall the land may be stocked until May with good effect, more especially if the plant be not a very full one. We hear of forward Wheat being grazed with sheep to prevent excessive growth, but we think it a risky process, especially if frost follow, and we would rather graze a thin crop than a full one.

METEOROLOGICAL OBSERVATIONS.

CAMDEN SQUARE, LONDON.

Lat. 51° 32' 40" N.; Long. 0° 8' 0" W.; Altitude 111 feet.

DATE.		9 A.M.				IN THE DAY.				Rain.	
1896. March.		Barometer at 32°, and Sea Level.	Hygrometer.		Direc- tion of Wind.	Temp. of soil at 1 foot.	Shade Tem- perature.		Radiation Temperature		
			Dry.	Wet.			Max.	Min.	In Sun.		On Grass.
		Inchs.	deg.	deg.		deg.	deg.	deg.	deg.	Inchs.	
Sunday .. 22		30.014	52.7	50.9	N.	45.2	65.2	45.3	95.1	37.9	—
Monday .. 23		30.047	49.0	49.0	N.W.	45.9	61.0	43.4	99.5	35.0	0.036
Tuesday .. 24		29.894	51.1	47.6	N.	46.1	64.9	43.4	93.2	3.3	0.010
Wednesday 25		29.728	53.9	50.9	S.W.	46.8	62.0	4.2	101.9	38.3	0.010
Thursday .. 26		29.726	47.2	44.2	W.	47.1	53.7	45.6	103.2	38.4	0.097
Friday .. 27		29.978	43.8	38.9	N.W.	46.7	51.9	38.9	95.4	33.1	0.086
Saturday .. 28		29.569	41.6	40.4	S.W.	45.0	47.2	35.3	83.2	27.2	0.228
		29.851	48.5	48.0		46.1	58.0	42.6	95.9	35.2	0.467

REMARKS.

22nd.—Humid early; bright sunshine all day, and very warm; lightning in evening.
23rd.—White fog early; bright sunshine from 9.30 A.M.
24th.—Cloud, sunshine, and showers in morning; bright sunshine all afternoon.
25th.—Much bright sunshine, but cloudy at times.
26th.—Slight showers early, with occasional sun; bright sun all afternoon; showers in evening.
27th.—Gale, with showers in small hours; brilliant morning; generally cloudy in afternoon; cloudless night.
28th.—A little sun early; heavy rain from 8.15 to 10 A.M., and with hail and wet snow from noon to 2 P.M.; sunny at times after.
The warmest week this year, and several degrees above the average.—G. J. SYMONS



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Journal of Horticulture.

THURSDAY, APRIL 9, 1896.

EDUCATION.

EDUCATION is the order of the day. It meets us everywhere. It is the prominent topic in newspapers, clubs, railway carriages, and homes; indeed, it may be said with a near approach to literary accuracy that education is now in almost everybody's mouth. What is the impelling motive of this educational activity, what the object, and what may be expected to be the eventual results? Passing entirely and absolutely all, to us, subsidiary issues, brushing aside all such questions as Voluntaryism, Boardism, and other isms, and leaving them to be dealt with by others to whom they are dear, and in places to which they are fitting, we refer to the matter in the concrete, so to say, and especially to those aspects of it in which we, in common with a wide constituency, are more particularly interested, and as applicable to the art more than ever important, with which we and they are so closely identified.

We should be glad to think that the wide and deep interest now invested in educational matters is founded on a recognition of our national shortcomings in the methods of imparting knowledge, elementary and advanced, as compared with those in operation in other lands. An uneducated community can no more maintain a position of equality, to say nothing of superiority, with rivals who are educated in particular arts than barbarism can long resist the force of civilisation, and we have to remember that competing communities once distant are now very near; in fact, nations, though widely separated geographically, are now actually linked together, each striving, with all the resources at command, to meet the wants, we had almost said of the world, but may well pause on the threshold and say the needs of our own populations. We simply cannot afford to allow other nations to advance in the arts of production while we, the most negligent of many of our inherent resources, crawl along slowly in smug, self-satisfied isolation.

The lax educational systems, or want of systems, of past generations do not suffice for present day needs, and still less can they suffice for future requirements. With rival countries now in matters of time and transit, close to our doors, ever seeking to strengthen the intellects as well as to

train and fortify the minds of their populations, we must strive at least as earnestly as they, and on lines best calculated to issue in the best practical results. We not only want better educated heads, but better trained hands, throughout our whole community of workers in all their varied crafts and callings; and not least, but most of all in the cultivation of the soil, whereby our land may be made to yield over an infinitely greater area than is the case now its greatest increase.

More than a quarter of a century ago, in an interview with a then young statesman of bright intelligence, who rose to a high position—the late and universally lamented Hon. E. Stanhope—it was mutually agreed that no stereotyped form of education, conducted with rigid uniformity, could prove permanently satisfactory in both town and country. No uniform curriculum can be formulated that will meet the requirements of the diverse and distinct interests on which elementary and technical education is needed on definite subjects, both in densely packed cities and sparsely populated rural districts. The fundamental conditions and peculiar occupations of the people are wholly distinct, and the training of children and youths must be distinct, too, to be the best for either, or both, and for the general community. Compromises, however, carefully provided, though they may do something, cannot adequately meet the circumstances and exigencies of either case. In the “education days” of the past there appeared to be no practical alternative to centralisation. The position is different now, as opportunities are provided for the opposite, and in no other way than decentralisation is it conceivable, to us at least, that the education both of children and of youths rising into manhood, can be so directly useful and thoroughly efficient.

The result of anything like a uniform curriculum for teaching everywhere alike is that information is instilled into the minds of the young, in rural districts especially, that however good in itself, can be of little use to them, while much must of necessity be left out that might be of very substantial service. It is this which gives rise to complaints both on the part of supporters of schools and parents of children that find expression in the form of “over-education.” It is really education, but not on the best lines—not sufficiently concentrated on subjects of special interest in particular districts and adapted to the needs of particular communities.

Naturally, and up to a certain point, the instruction imparted in schools must be the same everywhere, but the time comes when the knowledge which local or district authorities know is most needed should be provided. No body of persons can know so well as local educational committees the particular teaching that is the most likely to be beneficial. In most rural and semi-rural districts far greater effort should be made to instil into the minds of the young sound principles relating to the nature and management of the soil and the cultivation of crops, also errors to be avoided in various operations and the consequences ensuing from faulty methods and negligence.

Instructive and entertaining reading lessons could be founded on those subjects in which the different operations for preparing land should and should not be conducted; also on seeds, their nature, duration of vitality, with depth and distances for sowing; on procedure by which plants are weakened or ruined on the one hand and strengthened and made healthy on the other; in the several parts of plants, roots, stems, leaves, flowers, fruit, their nature, functions, and requirements, pointing out the causes and consequences of obstacles to free development; on the food of plants—what it is, how and when it should be applied, also how appropriated and used. With sound truths on those and cognate subjects firmly implanted in the minds of boys and youths attending elementary or continuation schools, the possessors of such knowledge would be in a far better position to fulfil the duties of life than they could possibly be in the absence of such teaching, and better still if supplementary land lessons were also afforded in which the practical application of such teaching could be demonstrated.

Only those persons who have had special opportunities for

testing the matter by the examination papers (in which students have laudably endeavoured to answer questions which have been submitted to them) can form any conception of the erroneous views prevailing in the minds of those who are striving for more knowledge on subjects in which they are interested or engaged. The want of exact knowledge is in truth deplorable, even among numbers of persons who are engaged in gardening. This is no reflection on them, or at least on those who are so commendably endeavouring to make good their deficiencies. They have never been taught what they urgently desire to know, and in all probability never would have been, but for the facilities afforded by some of our County Councils following the example of Surrey in this work. The avidity with which information is received, the measure of the existing desire for it, and the appalling ignorance prevailing, reveal the urgent need for the shedding of more light on the vitally important subject of the cultivation of the soil and the production of necessary food-yielding crops.

The teaching to be the most effectual should begin in the schools of rural districts, but not end there, even when gardens are attached, with the completion of school attendance. It is most important that those boys who display marked aptitude in the cultivation of small plots, and develop a love for the work, should have opportunities for its continuance after the school term has expired, as it is only then that they begin to appreciate its value, and work with greater zeal accordingly. Judging from experience it would be better to have garden lessons in school only, with land lessons at the expiration of the school term as continuation work by then strong youths, than to have plots for practice during the school term and no longer, as this latter method would be cutting them adrift just when beginning to understand the subject, and becoming capable of practising it usefully.

Where continuation school garden work has been in operation three years under the auspices of the Surrey County Council the results in many centres have been surprising. In some instances land has been made by the labour of youths solely, under guidance, to produce at the least 10s. worth of vegetables from each rod that previously did not afford a pennyworth of produce for anyone—an instance of waste land reclaimed. In other cases land that had been relinquished as “no good” (starved out) has been restored and made to yield bountifully. There are youths not seventeen years of age who can work and crop a piece of land and keep all the crops orderly from beginning to end as well as hundreds of good men could accomplish at twice or thrice their age, and better than could hundreds more belonging to the careless or thoughtless brigade. Surely teaching that gives such practical results is worthy of extension by educational authorities. Encouraging results of practical land lessons under competent teachers have also followed in several counties where the work has commenced, and the effects will be still more marked as time goes on. Is not education such as this calculated to be of more service to numbers of our future men in rural districts than any amount of struggling with duodecimals and various other educational accomplishments?

It is not to be supposed that all youths who are taught the theory and practice of land cultivation will equally excel in it. Tastes and inclinations vary, and it is right they should; but it is all the same a fact that the great majority who have taken advantage of the facilities afforded them in plots provided by technical education committees have developed undoubted cultural aptitude. Nor will this be to their own advantage alone, because each by his work will influence others just as prize allotment holders do by the excellence of their work, “shaming,” as many of them have done, others out of their slipshod and slovenly ways.

Now, at a time when something like a revolution seems to be in progress in educational routine, we take advantage of it for putting a plea for systematic land teaching in country districts. A yearly increasing number of persons must live by or from the land somewhere, and we want more and more to live by or from our home land by its higher, more intelligent, and more thorough

cultivation. The circumstances of the times need that this should be so, and future emergencies may cause poignant regret if nothing is done in this direction. We live in times of peace and homely plenty now for most men who are willing to labour, but crucial times may come when we shall be more or less fully thrown on our home resources. It is prudent, then, to be prepared, and if calamitous days do not come all the better, for our land will surely benefit by being made to yield the more by the knowledge and industry of its workers. We have also to remember that these will increase, not only by the natural increase of population, but by the greater demand for plots of varying sizes, and the greater readiness that is, we suspect, bound to increase on the part of proprietors to supply them. It does not follow that it may be so everywhere. There are happy localities in which men are content with their present possessions; but there are others in which a good deal seems to be needed for local requirements.

A stray observation—the casual dropping of a word—is sometimes suggestive, such as 90 acres of land devoted to allotments at Swanmore. If this area is needed on one estate in a strictly rural district, either the Swanmore men are more earnest than others, or there are thousands more wanting a bit o' land. Be that as it may, the men are better employed in wresting Potatoes and bacon out of the soil at home than wandering no one knows where—perhaps into densely crowded cities to subsist as well as they can, largely on foreign food, for which they would of course have to pay their share towards the cost of growing. The suggestion may seem very absurd, but it is all the same founded on economic fact, and may afford food for reflection.

With other aspects of the education question we have nothing to do, and in no other respect than its bearing strictly on the art of land cultivation will it be discussed in the pages of the *Journal of Horticulture*.

GARDENIAS.

At one time these were popular flowers in the market, but the price they now realise leaves only a very small margin of profit for the grower. Flowers that are produced with less heat and trouble have to some extent displaced them. In private gardening establishments they are still popular, but unfortunately they are not grown so well as they should be. This is often due to having to grow the plants in pots and subject them to treatment that is anything but suitable. If young, clean, healthy stock can be planted in well-drained and well-prepared shallow borders where full sunshine can be given and plenty of heat and moisture maintained they grow luxuriantly. Strong bushy specimens planted in the spring about 2 feet apart will meet by the autumn; in fact, the bed in which they are planted will be one mass of growth, and large flowers with bright bold foliage will be the result, which in a cut state are handsome for the adornment of the dining table. To keep plants in good health during the following year the growths must be cut back, a rich top-dressing given, and be liberally fed with chemical manure at intervals afterwards. It is then wise to have a young stock to displace them, throwing out the old plants after flowering and renewing the soil.

The best method of propagating these plants is to root cuttings in the autumn, and keep them in 3-inch pots throughout the winter. In the spring place these in 5-inch pots, and where practicable give them gentle bottom heat. They push freely from the base and are soon ready for 7-inch, in which they can grow and flower. The following season they are transferred to 10 inch pots, and on an average by the end of the growing season are plants 3 feet through.

Cuttings of soft shoots may be rooted now in brisk heat in thumb pots, and if well looked after will be capital plants by the autumn, and in the spring will produce a good number of blooms. The second season they make plants large enough for any purpose and yield abundance of flowers. Careful watering must be accorded at all stages, thorough drainage being equally as important.

The plants should have full sunshine from the time they are well rooted. Pinching of the shoots must be resorted to from time to time to induce the plants to branch in their early stages, but when once fairly bushy plants are produced we allow them to grow and branch naturally. The second season—that is, after flowering—the strongest shoots are cut back, while all the weaker ones are left.

The plants must be liberally syringed throughout the year, which assists wonderfully in keeping them clean.

During part of August and September a little more air should be given to harden and mature the wood, but it must be done without checking the plants. The summer night temperature should not fall below 70°, while with sun heat in the day the temperature may range from 80° to 85°, and be allowed to run up after the house has been closed to 90° and 95°. The night winter temperature may be 60° to 65°. With increased moisture and warmth during February and March the flower buds swell rapidly and the flowers quickly expand.

The soil in the early stages of growth may consist of equal parts of good loam and peat, with coarse sand added. Good leaf mould may be substituted for the peat. In the last pottings good fibrous loam, one-seventh of decayed manure, with the addition of coarse sand, will be found admirable. The soil should be pressed firmly into the pots. The best method of feeding is to sprinkle chemical manure on the surface.

Insects are kept down by frequent syringing with petroleum and water, the sun being kept off the plants for a time afterwards. Any insects left that the petroleum will not reach may be touched with methylated spirits, which soon destroys them. This spirit does no harm, provided the leaves or stems are not bruised. Success depends in no small degree on keeping the plants perfectly free from mealy bug and scale. Young, free-growing, healthy plants are not half so liable to their attacks as old and stunted examples.—W. BARDNEY.

A HARDY FERNERY.

THE earlier—even the earliest—impressions of a gardener's life are, I think, very lasting ones. Neither time, nor place, nor circumstance effaces them—that is, so far as they pertain to the agreeable. More unpleasant memories are lost sight of or are toned down to all but the vanishing point, hence “The most toilsome journey often makes the most delightful retrospect.” I am looking back over many years to an old-fashioned Kentish garden, and to one corner of that garden devoted to this subject a hardy fernery, wherein were many things appropriate to the position—many varieties not often met with now, and some that I, at least, have not seen since. Yet, I think, could descriptive powers do justice in the representation of that hardy fernery of the long ago, the subject might possibly receive more attention than appears to be given to it at present.

So well designed was this hardy fernery that but little design was apparent; but, so far as I recollect, it was of nearly circular formation, enclosed by informal banks of soil confined within bounds by rough logs and heavy limbs of timber. These banks were planted on the outside with Laurels, and the whole was more or less shaded and sheltered by the contiguity of some large deciduous trees, the position of which had probably some relation to the outline, for no unnecessary labour had entered into the making. An informal walk divided the banks from the central portion, which was flat, perhaps a little below the level of the path, and roughly outlined with timber similar to that supporting the banks.

Low-growing Ferns consisting of Polypodies in variety, *Adiantum pedatum*, and others, principally those with creeping rhizomatous stems, made a fringe for taller kinds in the central bed. The most notable feature of the latter was an extensive group of the noble Ostrich-plume Fern, *Struthiopteris germanica* and *S. pennsylvanica*. These divided the honour of the position with a regal clump of *Osmundas*, of which some of the rarer North American kinds were also represented. *Adiantum pedatum* is a plant so seldom met with or so poorly represented in British gardens that it appears to be worthy of note that the proprietor of this Kentish garden was in the habit of receiving cases of this Fern from a friend in Canada, and as testimony to its hardy character it may also be worth recording that it was dug out in blocks from its native habitat as soon as the rigours of a Canadian winter permitted of its being done. If I mistake not these importations came from a cemetery in the neighbourhood of Montreal, and the pleasure and interest attached to the arrival of one of these cases was augmented by a liberal contribution of *Cypripedium spectabile* from the same locality. Rarer Orchids have been common to me since, but I doubt if the pleasure of watching developing blooms has ever equalled that surrounding these charming plants of boyhood's days. Before dismissing this phase, the only difficulty I know of in establishing *Adiantum pedatum* is the care necessary to protect the rising fronds from the depredations of slugs.

To enumerate the choice varieties of British Ferns planted on the banks or in nooks formed by the logs would be as impossible as it is perhaps unnecessary; but I believe it was then the richest

collection extant, and possibly has not since been surpassed if equalled. It was truly a Fern lover's paradise, and not less happy for the plants it contained, particular care and forethought being given to those gems of the species which required it. At this period, some thirty years ago, a veritable craze appeared to exist on the subject of Fern culture not confined to hardy kinds alone, for the first imported (or some of the first) *Gleichenias* found their home here, a special house being built for their accommodation, one plant of *G. Speluncæ* afterwards changing hands reluctantly for sixty guineas. This was, of course, many years before my time, and would probably be about or prior to 1830.

My memories of the past are, I fear, running away with me all over that garden, the history of which, so far as Ferns are concerned, would fill a volume; yet while thinking of the houses I would like to mention that tall and stately Tree Ferns were transferred from them during the summer season to vantage points of the hardy fernery, where their arching fronds were the crowning glory of the lesser Filices. Masses or single specimens of the elegant crested varieties of the Lady Fern, *Athyrium Filix-fœmina*, with the darker-hued *Lastreas* and all but evergreen *Scolopendriums* were plentifully bestowed about the banks, and in some cases the wants of some particular kinds were specially catered for; thus, for instance, the Parsley Fern (*Allosorus crispus*) of the Yorkshire moors was planted in the interstices of boulders thrown up at a sharp angle on a peat foundation. A rare form of *Asplenium trichomanes* (*cristata*, if I recollect aright) was also happy in pounded rubble.

Impossible as it is for me, after the lapse of time, to enter into a detailed account of species and varieties, of which, I believe, every then known kind was represented here, and some of which were unique, it is sufficient to say that the whole summed up a collection of beauty and interest which is still vividly presented to my mind. Somehow the floral beauties and acquisitions of later days appear to have eclipsed these more modest, yet not less interesting, plants with their simple requirements. That all the varied forms are still in existence is doubtless a fact, and with additions, too, but to meet with a collection, and a collection so happily and so naturally disposed as in this hardy fernery of long ago, is now of rare occurrence, if it happens at all. This, at least, is my experience founded on migratory data.

During the winter season—the season of rest—these hardy Ferns were snug and comfortable under the protection of their dead fronds. No clearing up or question of untidiness invaded their quarters till such time as returning spring renewed the interest in their welfare, then the awakening crowns were neatly trimmed with some top-dressing disposed about them, and a good soaking of water was given to the banks if they proved to be dry. Holding a position, as these plants do, removed from all possible invidious comparison with other phases of plant culture and care, and yielding so much refined enjoyment in their distinctive yet appropriate relation to more florid beauty, I look forward to the time when their claims will be re-asserted, though the enthusiasm a former generation endowed them with may never return.—INVICTA.



DENDROBIUM MOSCHATUM.

THIS grand old species is now in flower, the rich orange of some of the better varieties contrasting finely with the dark maroon on the lip. It has one great defect, and that is the short time the flowers last in good order, rarely much over a week. Strong plants push vigorous growths 6 or 7 feet high, and if these are well ripened in the autumn they produce a large amount of flower, spikes appearing three or four years in succession on the same stems. It is one of the easiest in the genus to cultivate, owing to the vigour of the roots. These will push through a thickness and quality of compost that would ruin the smaller rooted kinds, such as the deciduous group consisting of *D. Devonianum*, *D. Bensoniæ* and others.

Large pots and abundance of drainage, a compost consisting of equal parts of peat fibre, loam, and sphagnum moss, and a liberal supply of heat and moisture while making its growth; these are all that are required during the summer, and in the winter the plants may be grown in any house that does not fall below 45°, keeping them rather on the dry side, but not allowing the foliage to get limp or the stems to shrivel. Insects are not often trouble-

some, and may be kept under with ordinary vigilance. It is also known as *D. calceolus*, and is a native of various parts of India, whence it was introduced in 1825.

ODONTOGLOSSUM LUTEO-PURPUREUM.

This is a very useful and ornamental species, not in the least difficult to grow, and always presenting a good flowering return. It is one of the most variable Orchids in cultivation, and even in collections where hundreds of plants are grown it is seldom indeed that two are found exactly alike. The typical form has flowers about 3 inches across, yellow on the segments, freely blotched with brown; the lip is white and brown, sometimes plain on the edge, but usually undulate and deeply cut or fringed. The habit is exactly like that of *O. crispum*, and like that favourite species it may be well grown under cool house treatment.

The plants must be placed in rather small pots, firmly fixed in a compost consisting of equal parts of peat fibre and sphagnum, with abundance of finely broken crocks at hand to be mixed in as potting proceeds. Newly imported plants should have a very thin layer of this compost, and about an inch is enough for well established pieces. Plenty of water will be needed all the year round if potted on this system, as the roots are always more or less active. A light sunny position should be found for them during the winter months, but in the summer the house or pit wherein they are grown must be heavily shaded and freely damped.

PHALÆNOPSIS LUDDMANNIANA.

A good spike of this charming Orchid is now in full beauty, the prettily marked sepals and petals and the highly coloured lips being very distinct. The spikes, however, to a certain extent lack the grace and elegant carriage of *P. amabilis* and the superb *P. Schilleriana*. Nor is it as a rule quite as happy under culture as these two easily grown kinds. Like all in the genus it may be reared with comparative ease, the growing temperature being easily enough maintained, but the winter treatment is more difficult, and to bring plants unscathed through a severe season requires careful and intelligent culture.

Our plants never looked better than at the present time, the mildness of the winter possibly having something to do with this satisfactory state of affairs, and as several of them have not been shifted for years, as soon as they go out of bloom we shall rebasket them. This is an operation requiring care, for not only is it difficult to do without checking the plants now, but even after they are done considerable risk is run of damaging the roots by extremes of dryness and moisture. The roots will generally be found running parallel with the rods of the basket, making it difficult to cut the latter off. If the wires are drawn out at the corner, any of the rods with no roots attached may easily be slipped out, leaving room to get at a good deal of the old and decayed moss and roots, while those having living roots on them may be cut back to where the latter extend, and placed in the new baskets. In every case it is important that no particle of decayed material—be it wood, root, or compost—is allowed to remain, for it is extremely injurious to the new roots, and apt to breed the troublesome white fungus, so feared by orchidists.

Clean and freshly gathered sphagnum is the best of all mediums for *Phalænopsis* to root into, as it holds just sufficient moisture and gives it off in proportion to the need of the plant. Charcoal must be added to keep it open, as without this the moss settles down closely and decays instead of growing. The base of the plants must just sit on the convex mound that will be formed by the moss, and after carefully fixing it in position and trimming off all ragged ends and replace at once in the growing quarter. Keep the moss growing, and as a rule the plants will be wet enough at the roots for a few weeks, but afterwards they will require more water. Allow all the light possible without injuring the leaves by sunburn, and especially as the autumn draws near shade only when the sun is at its hottest, thus preparing the plants by the consolidation of their tissues to pass the winter in safety.—H. R. R.

ORCHIDS AT GREAT GRIMSBY.

By some persons it is thought that there is nothing but fish at Grimsby, but I can assure our horticultural friends that although the fish trade reigns supreme there are many signs of horticultural progress in and around this thriving seaport. One of its most liberal and enthusiastic plant lovers is Geo. Marshall, Esq., J.P., the popular owner of Claremont House, whose splendid collection of Orchids is fast making itself more than a provincial reputation.

This cannot be wondered at, for it numbers many fine and rare specimens, all in the best possible health and vigour, plainly indicating that, given skilful culture, there is no fear whatever of the successful growing of all that is rarest and best in the Orchidaceous family. Rightly or wrongly I have an idea that the environment

of Grimsby is specially favourable for Orchid growing, and every time I visit Mr. Marshall's grand collection I am more and more convinced that I am right in my surmise, for it is almost impossible to find a single plant which is not enjoying the rudest health and making the best of growth.

I saw a few days ago, amongst other Orchids in bloom, several large specimens of *Cattleya Trianae*, carrying from twenty to twenty-four blooms; *Cattleya Trianae Schroderae*, Claremont House var.; *C. dolosa*, flowering freely; *Laelia anceps* and its varieties, *Sanderiana* and *Stella*; *Coelogynes cristata maxima*, *Lemoniana*, *Chatsworth* var., and *cristata alba*; *Vanda Amesiana*; many forms of *Dendrobium nobile*, some of them being quite equal to *D. nobile nobilius*; *D. nobile Cooksoni*; *D. nobile nobilius*; and *D. Wardianum Lowi*; a grand plant of *Dendrobium fimbriatum superbum*, which some time ago received an award of merit; *Cypripedium Lathamianum*, fine variety, carrying six grand blooms; also *C. Boxalli*, *C. villosum superbum*, twenty-five flowers; and *C. Chamberlainianum*; *Cymbidiums Lowianum* and *eburneum*, *Lycastes Skinneri alba*, *cruenta*, and *cristata*.

There are also amongst the cool Orchids now in flower about 500 imported plants, including fine varieties of *Odontoglossum crispum*, *O. Edwardi* (seventy-two flowers), *O. Rossi majus* (thirty flowers), *Oncidium splendidum macranthum*, *O. concolor*, *Masdevallias Harryana*, *lilacina*, *Shuttleworthi*, and *Lindeni*.

Besides Orchids there is a choice collection of stove, greenhouse, and decorative plants, all of which are of the highest possible quality. Vines and Peaches are equally well done; in fact, the entire place is in perfect order, and speaks volumes for the skill and ability of Mr. James Johnson, the very energetic gardener.—YORKSHIRE BITE.

MANURES FOR PEAT PLANTS.

THERE exists some dubiety as to whether manure in any form exerts a beneficial influence on plants that affect a peat soil. It is not very long ago that exactly the same feeling existed with regard to applying manurial agents to Ferns growing in peat, but that has passed away, and it is now a well-known fact that Ferns are particularly partial to manurial foods. I imagine that peat plants generally are by no means averse to manure, though no doubt it must be applied to suit the plant.

Peat soils are greatly deficient in mineral constituents, in nitrogenous elements, and in the material that is productive of the all-important phosphoric acid. There is, I venture to think, a mistake in assuming that because a plant grows well for a time in pure peat that ordinary plant foods are of no importance to it. Peat soil as employed in this country has in its composition a large amount of organic matter, such for instance as the roots of Ferns; and we know that the so-called peat employed by continental horticulturists is not peat at all, but in reality a kind of humus prepared from the foliage of forest trees. Moreover, in a state of nature Heather, Rhododendrons, Kalmias, Andromedas, do not affect a soil purely peat. Nor under cultivation is there any necessity to provide peat for these and kindred plants. Leaf soil or a compost of leaves, decayed grass, soil, and sand grows them to perfection. Moreover, a thick mulch of farmyard manure applied above the roots of such plants as are in a sickly stunted condition not infrequently restores to them the appearance of health if not luxuriance.

In the case of plants cultivated in pots, the beneficial effect of phosphatic and nitrogenous agents are of a very marked nature. I have, for example, some Azaleas that were last repotted in 1882, and then into 6-inch pots, a size in which it is most convenient that they should be grown. It will readily be admitted that little if any of the original fertility can be expected to remain in the compost at this date. For my part I doubt if there has been any for many years, and the result naturally to be expected would be stunted flowerless plants. I am not going to say they are in a condition the very antithesis of that—examples of high-class culture—that is more than fairly could be looked for, but they are ordinarily good plants, furnished with vigorous growths that bear with unfailing regularity each year their crop of flowers, and their general aspect when in bloom is at least of a nature to admit them as decorative plants among others into apartments in the house. They are pruned as required, and this no doubt exerts some little effect on the well-being of the plants. But indubitably it is mainly, if not altogether, by the application of suitable manures that this condition of health and comparative vigour is assured.

I may say that many kinds of manure, proprietary and home made, have been used, but none has produced results so strikingly good as slight weekly applications of slag flour during the season of growth, and occasionally during the other part of the year. This is supplemented by a little sulphate of ammonia, dissolved in water, and applied about once a month. Some winter-blooming Heaths that were purchased three or four years ago in 4½-inch pots, and treated in the same manner, exhibit the good effects of manure.

Slag flour, on account of the large per-centage of phosphoric acid it contains in a quickly soluble condition, and also because of the lime in its composition, forms the beau ideal fertiliser for peat soils. Both the above agents are rapidly soluble, and with the addition of ammoniac sulphate a fairly complete manure results. Moreover, iron is present in very large quantities, and we cannot now overlook the important effects

that follow the employment of this mineral. As applied to certain Orchids, Dendrobiums, and others, and to *Nepenthes*, the same fertilisers have given improved growth.—B.

RULES FOR JUDGING.

I SUPPOSE I ought to have replied to my two critics in last week's Journal, but I thought I would wait a week and see if I had "drawn" any more. No more appearing I will now say a word. In this free country, I take it, it is no wrong to say what we have to say even about so august and learned a body as the Committee of "all the talent" (as was said of a certain Government of past days) of the R.H.S. who had published a code of rules for judging. Provincial or country humour we all know is somewhat heavy, and any little bit of fun which I poked at said Committee was, I admit, not very brilliant. "A. D." (page 280), however, evidently took in the spirit of my note and discussed the matter most fairly and reasonably, somewhat to my surprise, because we all expect from him a more or less severity of judgment (I do not mean this offensively "A. D."), and we generally get it. His note on the



FIG. 55.—CYPRIPEDIUM EXUL, MAJOR JOICEY'S VAR.

manners of judging of cottage gardens and allotments drawn up by the officers and judges of the Surrey County Council I thank him for and I am now in possession of the papers used by the judges. The system is excellent in every way, and though to keep up my character of "An Old Provincial" I may not carry the practice out, thinking my own way the better, I yet can see that both the principle and practice of this system is a sound one.

As to "One of the Forty-six," I can hardly take him seriously. I suppose his criticism is meant for humour. It must be, for I laughed the whole time of reading, and not on the wrong side of my mouth either, for I was tickled by the fact that he was trying to humorously criticise my note, which he had failed to see was written in a bantering tone. His criticism is clever but flippant, but then he is young, at least "not old," and of course not a provincial, and therefore he has much to learn; and one of the things he will learn as he gets on in life is that those who differ from him are not always actuated by base and unselfish motives. It is a difficult life lesson I admit, but we most of us learn it, often from bitter experience, as we grow older.

He puts what he considers a poser of a query to me. My reply is, Surely, surely, without going to the dictionary, which I have consulted as much as any ordinary man, most people will see at once that a man may be "untried," not proved, even though he be an "expert," have skill. Eh! come now, where is the poser? The pity is that "One of the Forty-six" is not a very close reader, or he would have seen that I did not lay "the flourish of trumpets" to the R.H.S. or its Committee, and he certainly cannot have read the weekly literature of our craft for some months past now with carefulness, or he would not have been ignorant of what I meant by the "flourish of trumpets." If he does not know it, most other readers do; however, I am quite satisfied. I have drawn out something, though I scarcely expected to draw out so strange a critique as that of "One of the Forty-six."—AN OLD PROVINCIAL JUDGE.



NATIONAL CHRYSANTHEMUM SOCIETY.

THE annual outing of the members of the National Chrysanthemum Society will, by the kind permission of Lord Aldenham, take the form of a visit to the gardens and grounds of Aldenham House, Elstree, on Monday, July 20th.

CHRYSANTHEMUM BOX.

I SHOULD greatly esteem the kindness if some correspondent would give me the information through the Journal as to the most convenient size and how best to construct a travelling cup-board for conveying Chrysanthemum blooms to and from the shows.—A.

THREE CHRYSANTHEMUM BOOKS.

A NEW FRENCH BOOK ON THE CHRYSANTHEMUM.

"Le Chrysanthème à la Grande Fleur," par Anatole Cordonnier, is the title of a rather substantial volume that has just been published by a well-known admirer and cultivator of the golden flower in the North of France. It is about the fifth testimony of its kind that has been paid to the popularity of the Chrysanthemum this year, and is by no means the least important, for the author has produced an excellent treatise, got up in good style, neatly printed, and rather profusely illustrated at a price—viz., two francs, at which no other French work on the subject can compete. There is indeed so much for the money that we can only deal with it in a very superficial manner within the limits of a notice like this:—

By far the greater portion of "Le Chrysanthème à la Grand Fleur" is devoted to cultural matters, although the author does make a short survey of the history of the flowers in his country between the years 1887 and 1896. Mons. Cordonnier treats very fully the various details of propagation by cuttings and by seeds. He tells us also the composts and manures to be employed to bring about the best results, the repottings that are necessary, and the treatment of the plants during their young stages. Much of this is, of course, from the personal standpoint of the author, and may require some modification when applied to culture in different parts of England, but then it must be remembered Mons. Cordonnier's object is primarily to instruct his fellow countrymen in an art of which they were almost wholly ignorant prior to his successful display at Roubaix in 1887, and of which an illustration appears in the new book.

Summer and autumn treatment, and the mysteries of bud selection, are ably dealt with, and the latter subject very freely illustrated by way of explanation. Chapters on diseases, insect pests, grafting, open air culture, pot culture for dwarf plants, specimens and bush plants, all receive attention. Most of the small illustrations in the text are woodcuts, but there are several large folded plates in which the aid of the photographer has been called to embellish the work.

The second part of the volume is devoted to an excellent catalogue of selected varieties for cultivation on the big-bloom system, and in this catalogue will be found a large number of the best novelties from all sources—English, French, and American, showing pretty plainly that the author is not a man of narrow ideas, but one who is able to recognise merit in the labours of other raisers than those of his own country. A useful indication in part 2 is the note as to the proper bud to select in most of the varieties described.

Part 3 deals very widely with what may be termed miscellaneous subjects in connection with the flower, and a few of the headings will suffice to show their extent—The Chrysanthemum in England, in France, Societies, Floral Committees, Shows, New Varieties, and Popular Varieties in England. We think we may safely affirm that English growers who can read French and are sufficiently interested in the matter as to procure "Le Chrysanthème à la Grande Fleur," will find much more interesting matter on that flower in France than can be obtained in any other book on the subject. Until last season no such thing as a Chrysanthemum society existed in France, and the reader will find at the end of Mons. Cordonnier's book a reprint of the rules of the Northern Chrysanthemum Society of France, of which he is Secretary. The work, which is dedicated to Mr. C. Harman Payne, can be obtained of the author, Grapgeries du Nord, Bailleul (Nord), France.

OWEN'S CHRYSANTHEMUM CULTURE.

THE above is the title of a handy little book of fifty pages which has reached us from Mr. R. Owen, Maidenhead. Complete works on this subject are not very numerous, and room will easily be found for this one, which combines with its handy size the merits of being clearly printed on good paper. With the laudable object of publishing something really good Mr. Owen has applied to four men, than whom none is better known in the world of the autumn queen. These are Messrs. W. H. Lees, W. Tunnington, E. Molyneux, and C. Orchard, names which carry with them the certainty of practical knowledge and literary ability.

The first named deals with the culture of the Chrysanthemum for exhibition, and gives some excellent advice in a clear, concise, and forcible manner, which renders his contribution of much value. Instead of saying more regarding this article we will extract two short para-

graphs dealing with the taking of the buds, and which will convey to readers the character of the teaching.

"Though many varieties in both Japanese and incurved sections produce the best blooms if allowed to grow on naturally, there are some which do not make their first break early enough to allow time for the crown bud to develop by November, and these must be assisted by pinching away the point, thus anticipating the natural first break, and causing the crown bud to form earlier, which is generally desired from about the middle to the end of August. I will instance a few varieties, and the cultivator will then be able to draw his own conclusions from experience as to the best time for others of similar habit. Mrs. F. Jameson, Lord Brook, Robert Owen, and W. G. Newitt are good examples. If the point of these varieties be removed about the 15th of April the bud will show at a corresponding date in August, and the resulting flower from this bud will develop by the 10th of November, whereas if they were left to grow naturally the buds would not have shown till early in September, and consequently would only develop small blooms late in November.

"In the incurved section—with the exception of Princess of Wales and its sports, which are best on crown buds—the best blooms are developed on terminal buds, which form naturally late in August or the first week in September. The varieties of Queen of England and Princess Teck, however, do not as a rule (excepting in the extreme South of England) show their terminal buds quite early enough, and these must be hastened in the same way as advised for some of the Japanese, by taking away the points about the 20th of the month, and this will bring the bud at the right time. Of course the stopping must be done earlier or later, as experience will dictate in various districts. In the North and Scotland many varieties will not form their crown bud till late in August, and these buds will then give first-rate flowers; given good cultivation it is entirely a question of timing the buds in obtaining the best flowers—whichever bud is most easy to get on a given date in a particular district will be the one to take.

"I have been speaking hitherto of plants grown for large blooms, and the same general treatment will apply to all sections up to this date; those plants to be grown for specimens should be rooted as early as possible in December, and the points taken out as soon as the plant is strong enough in the new year, in order to make it branch out, and so on, pinching the resulting shoots in their turn when a few inches long, in order to get as many of good healthy growths as possible by the end of June, to train into formal specimens or otherwise late in the summer. Bush-grown plants to produce a quantity of blooms for decorative purposes may be grown in the same way as those for specimen plants, less the trouble of training. Having, I hope, made clear the object in stopping the plants, especially for large blooms, and the general principle involved—viz., the timing of the flower bud, which I would urge is of the utmost importance, and to a large extent must be worked out by the cultivator in his own particular district, we will return to details of cultivation in April.

"A first-rate soil is that composed of three parts good fibrous loam, broken up roughly, with the remaining fourth part composed of one-third leaf soil, one-third well decayed horse manure, and one-third wood ashes and lime rubble to keep the soil open; to this add a sprinkling of finely ground bones if the loam be of a poor nature; let the whole be well mixed together for a few days before it is required, and have pots, most of which should be 10-inch size, in readiness. The pots must be well drained in the usual way, and a very few half-inch bones may be sprinkled over the drainage; cover this with a handful of rough parts of the soil, and pot carefully and firmly. It is not necessary to leave room for top-dressing as some growers advise, but fill the pots to within 1½ inch of the rim. The pot mentioned above will suit the great bulk of varieties, but there are a few weakly growers that will be best suited in a size smaller."

In conclusion, Mr. Lees gives two lists of varieties, all excellent, and enhances their value by suggesting which bud is the best. In the Japanese he places Madame Carnot first, and suggest late crown buds, and the same for Chas. H. Curtis, which heads the incurved.

Both Mr. Tunnington and Mr. Molyneux dilate in calendarial fashion of the cultivation of these plants, and give hints in goodly numbers that cannot be other than of very great assistance to growers of all grades, that of the latter being especially useful for beginners.

Mr. C. Orchard discourses at some length on "How to grow dwarf plants for grouping, and how the first prize was got at Kingston." The cultural details here are, as everyone would expect from this expert, sound and conveyed in such a pleasing way as to be readily grasped even by the most inexperienced.

Altogether the book is a capital sixpennyworth, with which every grower should make himself thoroughly familiar, as none could read it without receiving considerable benefit. In a future edition, however, the spelling of some of the names might with advantage be corrected, though even in this respect there is little to cavil at.

"WELLS' BOOK ON THE CULTURE OF THE CHRYSANTHEMUM."

"IT never rains but it pours" is an old adage, the truth of which is demonstrated once again by the above, which came to hand with Mr. Owen's. The fame of Mr. Wells as a grower, raiser, and exhibitor of Chrysanthemums is ample justification for the publication of this book, which comprises seventy-five pages of well printed matter. Illustrations are fairly numerous, but, as a rule, they are suggestive rather than artistic.

Regarding his reasons for publishing this work, we may well let the author speak for himself. In the introduction he says, "My object in writing this book is to give to all Chrysanthemum lovers a few hints as

to how they may best succeed in growing their few plants for the embellishment of their small greenhouses, cottages, porches, or gardens; also the best method of growing for cut flowers, plants for grouping, for market, or large flowers for exhibition. When I say exhibition, I do not suggest that every flower is to be grown for the show board alone, as there are many ladies and gentlemen who like to see blooms of the first quality in their own conservatories, for they are noble 'grand' flowers, and coming at a time when there are so few other flowers, and lasting so long in bloom, and in such a variety of colours, makes them all the more valuable. Again, there are very few but what like their gardeners to enter in friendly competition at the local show, and many are so interested in showing that they make it a hobby, and a very interesting hobby it is; for how very rare it is to see an unpleasant face at a flower show. In fact, they are all pleasant faces, and it gives one pleasure to be one of the number, apart from the lessons and experiences one gains, for there are few gardeners or amateurs but gain some little knowledge and go home the wiser, hence their employers gain the benefit—in fact, it is nothing but these pleasant associations which has brought the Chrysanthemum to such a standard of perfection."

The chapter on Chrysanthemums for decoration will without doubt be useful to many enthusiasts, and we quote the major portion of it as a sample of the whole.

"There are many ways in which these may be grown, according to fancy, or the position the plants have to furnish. My opinion of a pretty decorative plant is to root the cuttings in March, as in the last chapter, taking out the points when they are established in small pots. Then from the pinching take three shoots. Let them grow 6 inches, then pinch them again, allowing three shoots to grow from each again.

"Each of these fine shoots should have a neat stick, and be allowed to carry one flower. These will be of good quality and colour, and are sure to please. Or they may be left in sprays. These will not be nearly such fine blooms, but they are very useful for cutting or massing, and, by striking late, the foliage is retained down to the pot if the watering is carefully done. Some of these would require 7-inch pots, some could be grown in 6-inch pots.

"If large specimens are required they must be rooted as early in December as possible, or even in November, potting them on as required. After they have grown 3 or 4 inches, take out the point; keep them gently growing in every other respect the same as the show varieties. Then, when they have grown 6 inches, stop them again, giving each shoot a small stiff stake, tying them out fairly wide and evenly, for this will form the foundation of the plant. Pot them on as required, so that they do not get any check, leaving three shoots to each break from the pinching. When these shoots are 6 inches long pinch them again, leaving three shoots to each as before, and continue the stopping until midsummer, but not later; for so many pinchings have a tendency to weaken the growths and they must have time to get strong. By the end of July, or early in August, they will make a natural break, when three or four shoots may be left from each break. Great care must be taken to prevent the shoot from snapping or splintering off, and the cultivator must decide as to how he will secure these shoots and what shape he will train the plant. Some prefer staking them out evenly all round. If this is done they get monster plants of some varieties 6 to 8 feet through. Some train or tie them all one way, for going back against walls, some as large pincushions, some as pyramids, and they look very pretty. When the plants are housed they should have a position where the light is even all round, or they will draw one-sided.

"Standards are very easily managed by rooting the cuttings as early as possible in the autumn, or, say, November, and growing them up to the height required on one stem. Then take out the point, unless they make a break. Place four rather stout sticks or bamboos at equal distances round the pot, the height of the stem. Tie a stout wire hoop round these, and with the centre stake run up a little higher; smaller wires may be stretched from the hoop to the centre for tying the shoots to. These should be gradually bent down as they grow, and when they have grown a foot or so, pinch out their tops to make them break, and you may in this way get a good foundation. Most varieties will make another break after this, which will give sufficient shoots to make a large head. The tying should be attended to as for the pyramids, &c. If small sticks are required to keep the flowers in position, a large Potato can be cut in two, scoop out a groove to fit the stem, and tie it at the top of the stem. The sticks can be stuck into this.

"I need hardly say that, to produce these large plants, pots from 10 to 12 inches across must be used, and the soil the same as that used for large blooms, but not rammed so hard, for they must be encouraged to make a quick free growth. When the pots get filled with roots they must be fed, and other matters attended to in the same manner as the show plants."

The price of this book is 1s., and considering the status of the writer, we think we shall be perfectly safe in predicting for it a considerable amount of favour. Curiously enough in this, as in the Maidenhead book, eccentricities of spelling somewhat mar the literary aspect of the work, but do not materially minimise its practical value.

CUCUMBER DISEASE.

A PHENYLE FAILURE.

"BY-THE-SEA" would like to know what the "phenyle adviser" of the *Journal of Horticulture* has to say on the case reported on page 309. Well, the "phenyle adviser" is much interested by the important communication, and congratulates "By-the-Sea" on his screwing-up courage

to record a failure. Albeit, this is easy enough when the pronouncement tells against something or somebody other than the recorder.

"By-the-Sea" mentions a case of the plants put out in September, 1894, dying in the following November, after producing about half a dozen fruits. A plant similarly affected has been subjected to scrutiny, the underground stem being swollen "into a dense fibreless mass" without phenyle solution having been applied—a remarkable case of "clubbing;" the specimen was found swarming with eelworms in all stages—adults, male and female, young, cysts and eggs. In a solution of soluble phenyle, one part in sixty-four parts water, a wineglassful to a gallon of water, all were extremely active, even the cysts and eggs, and in twelve hours all were still. The solution in which the specimen was immersed contained 197 defunct adults, cysts or eggs per drop, and one pint of such solution failed to communicate the disease to a healthy Cucumber plant. What has "By-the-Sea" to say on this case?

At the same time "Phenyle Adviser" had a Tomato plant, a fine healthy specimen, in a solution of nitrate of soda, one-eighth of an ounce to a pint of water, for seeing what effect nitric acid would have on a bacteroid nodule on the root-stem, and in this the eelworm collapsed in forty minutes. Further, this Tomato plant, freed from the nitric solution by washing and immersion in water, failed to contract eelworm infection by immersion in soluble phenyle solution containing 197 defunct adults, cysts or eggs, per drop. What has "By-the-Sea" to say to this case?

In the spring of 1895 a grower of Cucumbers for market lost the whole of the plants in one house within six weeks of planting, and was afraid to replant until advised to use soluble phenyle when setting the plants and giving each a gallon of the solution after planting, there was no more trouble. Why did the first lot fail and the second succeed? The phenyle got the credit, but the fact was there were not any eelworms in the soil, and the first lot of plants failed simply because they were badly infested when planted, they having been raised in soil of a vegetable nature and swarming with eelworms, while the second lot were raised in and grown on in soil disinfected by the use of basic slag phosphate and kainit mixed with the turf at laying up time in the autumn; indeed, it was the lime of the basic slag phosphate and the chlorides of the kainit that made the difference.

Last spring a grower of Tomatoes lost 169 plants out of 200 in one house; but by the use of soluble phenyle, one wineglassful to a gallon of cold water applied at once, saved the thirty-one plants and made good the gaps. This grower says nothing is of any use but Little's soluble phenyle, Jeyes' fluid, or Calvert's soluble cresol, against eelworm or "sleepy" disease. Indeed, what he says is, that the plan of phosphatising and chloridising the soil by the use of basic slag, phosphate, and kainit, suits the grower better, as the phosphoric acid of the basic cinder phosphate and the potash of the kainit means money to the grower. It is the free lime of the basic slag phosphate and the "chloride" of the kainit that kill the eelworms and the "sleepy" disease fungus. A little superphosphate and nitrate will do the rest, and are they not all inorganic, and not eaten as food by animal or vegetable parasites?—PHENYLE ADVISER.

["By-the-Sea" ought to be satisfied in having elicited the record of interesting and suggestive experiments. He is advised to try again on the lines indicated.]

ROYAL HORTICULTURAL SOCIETY.

DRILL HALL, APRIL 7TH.

THE exhibition held on the above date was not a very large one, but the quality throughout was remarkably high. Doubtless the meeting would have been larger had not the Monday been a Bank Holiday. Orchids made by far the best show, one large table being completely filled with specimens of high culture. The exhibits before the Floral Committee were of a very interesting nature, but the work of the Fruit Committee was not very heavy.

FRUIT COMMITTEE.—Present: P. Crowley, Esq. (in the chair); with Rev. W. Wicks, Dr. Hogg, and Messrs. T. F. Rivers, G. Bunyard, A. F. Barron, G. W. Cummins, J. Cheal, R. Fife, G. Reynolds, H. Balderson, G. Wythes, W. Bates, J. H. Veitch, J. Willard, A. J. Laing, A. Dean, and J. Wright.

With the exception of a few well-kept Apples very few products were placed before the Committee for examination.

Mr. G. Wythes sent from Syon House a dish of the early Fig St. John's, good fruits, quite ripe, and a vote of thanks was awarded.

Mr. G. W. Cummins, The Grange, Wallington, sent a remarkable example of a fasciated Brussels Sprout. The stem of the plant flattened out towards the apex to about the size of a tennis bat with leafy growths in the centre. It was referred to the Scientific Committee.

Mr. Will Tayler, Hampton, exhibited splendid fruits of Annie Elizabeth Apple for a certificate, on the ground that the variety, though old, had never been honoured by such award. While the fine appearance of well-grown fruits was admitted, also the excellent keeping properties of the variety, yet strong objections were urged against granting a certificate because of the general slow and shy bearing character of the trees, though some persons find them fairly productive on the Paradise stock, on which the handsome fruits exhibited had been grown. Recognising the usefulness of the fruit for exhibiting and its long keeping properties, and in view of the statement that it had "never been exhibited," an award of merit was eventually proposed, and this was passed by eight votes against six—majority, two. For the purpose of ascertaining the origin of this Apple we have referred to Dr. Hogg's

"Fruit Manual," and there we find the following note, "A seedling raised by Messrs. Harrison & Sons, Leicester. Received a first-class certificate in 1868." Thus the "merit" award of Tuesday has brought out the fact claimed by the minority, that the Apple has not fulfilled its early promise. The fruits exhibited were worthy of all praise, but the variety cannot rank as a generally profitable variety for planting. A bronze medal was awarded to Mr. Tayler for a small collection of fine and well-kept Apples and a dish of Uvedale's St. Germain Pears.

Mr. R. Parker sent samples of a russet Apple that is grown at Goodwood under the local name of Webb's Seedling—a long keeping variety that was recommended for dessert. While its keeping properties were apparent its quality for dessert purposes was questioned by several members, and no award was made.

C. J. Massey, Esq. (gardener, Mr. James Day), Garliestown, Scotland, sent thirteen dishes of admirably kept Apples, Lane's Prince Albert, Striped Beefing, and Cox's Orange Pippin being very firm and clear, and a silver medal was awarded.

A decision of the Council was read bearing on the question of granting certificates for meritorious products when examined at the Chiswick trials. The rule has been for examining committees to accord marks of merit, three of these being regarded as a strong recommendation for a certificate. Still, for the purpose of receiving the honour the products had to be brought to the Drill Hall with the chance of the members who had not seen them growing outvoting the few who had examined them in the gardens. In future if eleven members of committee are present at the Chiswick examinations the same awards can be made them as at Westminster; if less than eleven examine the products in the gardens they must be content to go on marking time as usual. We suspect the attendances will improve.

FLORAL COMMITTEE.—Present: W. Marshall, Esq. (in the chair); and the Rev. H. H. D'Ombra, with Messrs. J. Fraser, J. Laing, H. Herbst, R. Dean, J. Jennings, J. F. Macleod, R. B. Lowe, C. J. Salter, R. M. Hogg, J. D. Pawle, G. Gordon, H. S. Leonard, C. E. Pearson, C. E. Shea, H. J. Jones, J. Walker, C. Blick, E. Beckett, G. Paul, and E. Mawley.

Messrs. W. Cutbush & Son, Highgate, sent a large group of flowers and foliage plants, which was very attractive. Conspicuous in the exhibit were several well-flowered Azaleas, Ericas, Deutzias, Boronias, and Acacias (silver-gilt medal). A pleasing group of plants came from Messrs. J. Peed & Son, Norwood, consisting of Clivias, Hydrangeas, Spiræas, Lilacs, and Boronias, a few choice Orchids were also included, the whole being tastefully arranged with Ferns and Palms (silver Banksian medal).

Very striking was the large collection of Roses, both pot plants and cut blooms, exhibited by Mr. W. Rumsey, Waltham Cross. The plants were dwarf and well covered with bloom, and amongst the many varieties were noticed Magna Charta, Madame Victor Verdier, Silver Queen, John Hopper, Marie Van Houtte, Duchess of Albany, Niphetos, Beauty of Waltham, Cleopatra, and Madame Carnot (silver Flora medal). Messrs. Fellows & Ryder, Orpington, sent flowers of Amaryllis Mr. Makins. Messrs. J. Laing & Sons, Forest Hill, sent a plant of Streptocarpus Blue King, a distinct and fine variety.

Messrs. Sutton & Sons, Reading, sent a collection of a new Stock—Sutton's Forcing Purity. As the name implies the blooms were white; they were also sweet-scented, and the plants of sturdy robust habit. Mr. J. May, gardener to Wickham Noakes, Esq., sent a well grown plant of Caladium Noakesii. A fine collection of Roses in pots came from Messrs. Paul & Son, Cheshunt. Amongst others were noticed Gustave Piganeau, Catherine Mermet, Clara Watson, Francisca Kruger, Madame Hoste, Beauty of Waltham, Souvenir d'un Ami, Souvenir de S. A. Prince, and Madame de Watteville (silver Banksian medal). A small but choice collection of hardy flowering plants came from Messrs. Jas. Veitch & Sons, Chelsea, consisting of Polygala chamaebuxus purpurea, Rhododendron racemosum, Daphne Genkwa, and Corylopsis pauciflora (bronze Banksian medal).

Very attractive were the cut Roses staged by Mr. G. Mount, Canterbury, consisting of well-formed blooms of Catherine Mermet, Captain Hayward, La France, The Bride, Mrs. John Laing, Ulrich Brunner, Niphetos, Madame Gabriel Luizet, The Bride, and others, the whole making a pleasing display (silver Banksian medal). Mr. Frank Cant, Colchester, was also represented by cut Roses, which were much admired. Conspicuous in his stands were good blooms of A. K. Williams, Maréchal Niel, Francisca Kruger, Madame Hoste, Ethel Brownlow, The Bride, Princess of Wales, Viscountess Folkestone, Captain Christy, Pride of Waltham, Ruhens, William Allan Richardson, Niphetos, and Madame Lambard (silver Banksian medal). Messrs. Barr & Son, Covent Garden, were represented by a large display of Narcissi in great variety, including N. Backhousei, Emperor, Goliath, Countess of Annesley, Duchess of Westminster, Mrs. Langtry, Beauty, Portia, Snowflake, Barri conspicuus, Golden Spur, Sir Watkin, Snowflake, Weardale Perfection, Katherine Spurrell, and many others (silver Flora medal).

Rev. G. H. Engleheart also staged a pleasing collection of Narcissi in variety, which included Golden Bell, several hybrids of Narcissus triandrus, White Queen, Beacon, Firebrand, Ellen Willmott, and others.

Competitive Exhibits.—In the competitive classes for Narcissi Mr. Downes, gardener to J. T. Bennett Poë, Esq., Cheshunt, secured a first with twelve varieties of yellow and bi-colour Ajax Narcissus, showing blooms of Santa Maria, M. Foster, Sims Reeves, Shirley Hibberd, major, Emperor, Empress, maximus, rugilobus, Horsefieldi, and others. The same exhibitor was also awarded first prize for twenty-four varieties of Narcissi, which included Sir Watkin, C. J. Backhouse, Katherine

Spurrell, Emperor, Empress, Frank Miles, W. Wilks, Barri conspicuus, Leda, poeticus ornatus, Princess May of Cambridge, albicans, and maximus. The Rev. G. H. Engleheart showed twelve varieties of white Ajax Narcissus, for which he was awarded first prize. Several pretty seedlings were noticed in the exhibit, as well as varieties Mrs. Thompson, Mrs. F. W. Burbidge, albicans, White Minor, and tortuosus.

ORCHID COMMITTEE.—Present: Harry J. Veitch, Esq. (in the chair); with Baron Schröder, and Messrs. J. O'Brien, J. Douglas, C. Winn, W. Cobb, T. W. Bond, G. Hill, H. J. Chapman, W. H. White, C. Pilcher, H. Ballantine, R. Brooman-White, H. M. Pollett, and Fred Hardy.

The group of Orchids staged by Messrs. J. Veitch & Sons, Royal Exotic Nursery, Chelsea, was very beautiful, and comprised many splendid examples. Perhaps the most conspicuous plant in the exhibit was one of *Lælio-Cattleya callistoglossa*, the flowers of which were superbly coloured. *L.-C. Pallas* was also very fine; while *Lælia Latona* was worthy of more than a passing glance. Amongst the many others *Denrobium aggregatum majus*, *D. Euryalus thyrsoflorum*, *Cymbidium eburneo-Lowianum*, *C. Lowianum*, *Odontoglossum Pescatorei*, *O. Halli triumphans*, and *O. luteo-purpureum*, *Dendrobium lineale*, *Cypripedium macrochilum*, *C. Phædra*, *C. Brysa*, *C. Morganiae*, *Lycaste Skinneri*, *L. cruenta Rossiana*, and others (silver Flora medal).

Mr. G. Cragg, gardener to W. C. Walker, Esq., Winchmore Hill, sent some charming Orchids, having as a central plant *Cyrtopodium punctatum*, carrying 180 flowers on its one spike. Others were *Cymbidium Lowianum*, *Dendrobium macrophyllum*, *D. thyrsoflorum*, *D. Farmeri aureum*, *Cattleya Schroderae*, *C. Mendeli*, *Ada aurantiaca*, besides *Odontoglossums* and *Cypripediums* (silver Banksian medal).

A small exhibit of Orchids interspersed with foliage plants came from Mr. R. Gulzow, Melbourne Nurseries, Bexley Heath. *Lælia purpurata*, *Oncidium Marshallianum*, *Cymbidium Lowianum*, *Cattleya Trianae alba*, *Dendrobium densiflorum*, and *Cypripedium bellatulum* were amongst the most prominent (silver Banksian medal).

Messrs. Hugh Low & Co., Upper Clapton, staged a handsome collection of *Odontoglossum vexillarium*, other forms of *Odontoglossums*, *Phalænopsis*, and *Dendrobiums* (silver Flora medal). Mr. Davies, gardener to Gurney Fowler, Esq., Woodford, showed a plant of *Dendrobium thyrsoflorum* carrying thirty spikes of flowers and displaying a fine example of culture.

Cut flowers of Orchids were staged by Mr. H. Ballantine, gardener to Baron Schröder, The Dell, Egham. There were many very choice flowers exhibited here, including *Lælio-Cattleya vitellina*, *Odontoglossum Halli xanthodon*, *O. luteo-purpureum*, *O. triumphans* (grand variety), *Dendrobium nobile elegans*, *D. macrophyllum*, *Deari*, *D. m. Burkei*, *Cattleya Lawrenceana Vinckei*, *C. L. concolor*, *Phalænopsis Baron Schröder superba*, and several others (silver Flora medal). Mr. Roberts, gardener to R. Brooman-White, Esq., Ardorrach, Scotland, sent a plant of *Cattleya Lawrenceana*, a hybrid between *C. Lawrenceana* and *C. Mossiae*. Mr. E. Hill, gardener to the Hon. Walter Rothschild, Tring Park, staged an *Eriopsis* species and a spike of a *Stanhopea* species.

Three plants of Orchids were exhibited by Mr. F. J. Thorne, gardener to Major J. J. Joicey, Sunningdale Park, Berks. Quality was the feature here. A plant of *Dendrobium atro-violaceum*, Major Joicey's var., carried four spikes. A grand specimen of *Epidendrum bicornutum* was included, and *Cypripedium Exul*, Major Joicey's var., probably one of the best forms extant. Mr. T. W. Bond, gardener to Chas. Ingram, Esq., Godalming, showed *Cattleyas* William Murray var. *fulgens* and Sir William Ingram. W. Cobb, Esq., Tunbridge Wells, sent *Odontoglossum nævium* and *O. sceptrum nigrum*, Cobb's variety. Mr. H. J. Chapman, gardener to R. I. Measures, Esq., Camberwell, staged *Dendrobium atro-sanguineum* and *Cypripedium Quies*. *Dendrobium Hildebrandti alba* came from Mr. C. J. Salter, gardener to T. B. Haywood, Esq., Reigate, and *Odontoglossum Rossi majus* from Mr. W. Stevens, gardener to W. Thompson, Esq., Walton Grange, Stone, Staffs, as also did *O. luteo-purpureum*, *O. sceptrum Argus*, and others (silver Banksian medal). Mr. S. J. Ryden, gardener to C. Young, Esq., Sevenoaks, sent *Cattleya Schröderi*, Young's variety; T. Statter, Esq., Stand Hall, Manchester, also sending a few Orchids.

Messrs. F. Sander & Co., St. Albans, arranged a charming exhibit, comprising *Oncidium varicosum*, *Odontoglossum crispum*, *Maxillaria Sanderiana*, *Lycaste Skinneri*, *Cypripedium Rothschildianum*, *Cattleya citrina*, *C. Trianae virginalis*, *Cymbidium Mandanum*, and numerous others (silver Banksian medal). A few *Dendrobiums* came from Mr. T. Stafford, gardener to F. Hardy, Esq., Ashton-on-Mersey, and included *Venus*, *Clio alba*, *Falconeri giganteum*, and *Clio Tyntesfield* variety. Mr. P. McArthur, London Nursery, Maida Vale, sent a grand plant of *Platyclinis glumacea*, also specimens of *Odontoglossum Sanderianum*, *Coelogyne speciosa*, *Lælia flava*, and others (silver Banksian medal). Mr. Linden, Brussels, staged a few choice *Odontoglossums* (silver Banksian medal), and Mr. H. Adams, gardener to E. C. Raphael, Esq., Englefield Green, a spray of *Eulophiella Elisabethæ*.

CERTIFICATES AND AWARDS OF MERIT.

Arctotis aureola (W. Cutbush & Son).—Orange red is the colour of the flowers of this plant (award of merit).

Cattleya Wm. Murray var. *fulgens* (T. W. Bond).—A hybrid between *C. Lawrenceana* and *C. Mendeli*. The sepals and petals are rich purplish rose, and the lip purplish crimson (award of merit).

Cattleya Sir Wm. Ingram (T. W. Bond).—Pale rose is the colour of the sepals and petals of this hybrid. The fimbriated lip is crimson, edged pale blush (award of merit).

Cypripedium Exul, Major Joicey's variety (F. J. Thorne).—A magnificent variety. The broad dorsal sepal is largely pure white, but has a green basal patch spotted very dark brown. The petals are greenish-yellow with white tips, spotted at the base. The pouch is yellow tinged with green and brown. This is probably the finest *Exul* in cultivation. It is the property of Major Joicey, Sunningdale Park, and our woodcut (fig. 55, page 319) was sketched at the Drill Hall, when a first-class certificate was accorded.

Dendrobium Olio Tyntesfield variety (T. Stafford).—A very handsome variety. The long sepals and petals are rose, as is the lip, with the exception of a rich brownish crimson blotch towards the throat (first-class certificate).

Epidendrum bicornutum (F. J. Thorne).—Rarely is such a good specimen of this plant seen. The colour is pure white with the exception of the lip, which is spotted with violet (first-class certificate).

Lælio-Cattleya highburyensis (Burberry).—A bigeneric hybrid between *L. cinnabarina* and *Cattleya Lawrenceana*. The sepals are buff, and the petals rosy buff. The lip is rich deep red (award of merit).

Narcissus Dante (Rev. G. H. Engleheart).—Very large indeed is this variety of *Poeticus*. The cup is large, and edged rich red (first-class certificate).

Narcissus Petrarch (Rev. G. H. Engleheart).—Of the *Poeticus* section, this is very handsome. The shape is perfect. The colour is not quite pure white; the cup is edged orange red (award of merit).

Odontoglossum spectabile (L. Linden).—Very pale yellow is the prevailing colour of this Orchid, all the organs being more or less patched with brown (award of merit).

Polygala chamæbuxus purpurea (J. Veitch & Sons).—This is a pretty purple hardy flowering miniature shrub of compact habit (award of merit).

Rose Clara Watson (Paul & Son).—Salmon pink is the colour of this Tea Rose. In the bud state it is singularly charming (award of merit).

Stanhopea species (E. Hill).—This is very handsome with its yellow spotted brown flowers (award of merit).

Stock Purity (Sutton & Sons).—A grand forcing Stock, pure white and fragrant. The flowers are large and the spikes compact (award of merit).



EVENTS FOR THE WEEK.—The principal events for the ensuing week are the Daffodil Conference and Exhibition to be held in the Royal Botanic Gardens, Regent's Park, April 14th and 15th; the Brighton Spring Show on the same dates, and the Newcastle-on-Tyne Spring Show on the 15th and 16th.

WEATHER IN LONDON.—The Easter holidays have been marked by changeable weather. Saturday and Sunday were dull and overcast, with occasional heavy showers of rain. Since then, however, a most pleasant change has taken place, and at the time of going to press the weather is bright, genial, and springlike.

WEATHER IN THE NORTH.—The first week of April has been throughout dry, with fresh westerly winds, and, on the whole, pleasantly seasonable. On the mornings of the 2nd and 3rd there were 3° frost, since which there has been but little sunshine. Tuesday morning continued dull, but with a high and steady barometer.—B. D., *S. Perthshire*.

AMERICAN APPLES.—Each year the exportation of the fruits to Europe increases in quantity, quality, and value. Good winter Apples, carefully selected and properly packed, sell readily and command good prices in Great Britain and on the Continent. The best known American Apples in the European markets are Baldwins, King of Tompkins County, Ribston Pippins, Northern Spy, and various Russets; but it is believed by the authorities that the Winesop, Jonathan, Greening, Ben Davis, Vandever Pippin, and other well-known varieties grown in United States orchards would be acceptable, and secure for their shippers fair prices. Apples are shipped in barrels holding about three bushels, weighing about 112 lbs. The freight of these barrels from New York to European ports is less than 4s. per barrel, or 1s. 4d. per bushel. Export shipments of Apples from any of the States east of the Rocky Mountains can, it is stated, be made remunerative, and the variety which has sold for the highest price in British markets is the Albemarle Pippin, which is grown to its greatest perfection in the State of Virginia. This variety has sometimes netted the growers 9s. 4d. a bushel in the orchards.

TROPÆOLUM SPECIOSUM.—On the north front of the mansion at Abbots Leigh, Sussex, there is a plant of the above pretty creeper, which shows the extreme mildness of the winter. There has not been sufficient frost to kill the old stems, and it has now young shoots on last year's stems a foot long, 5 or 6 feet from the ground.—R. I.

GARDENING APPOINTMENTS.—Mr. E. Gilman has been appointed by the Earl of Shrewsbury to take charge of the gardens at Alton Towers, in succession to the late Mr. T. H. Rabone. Mr. David W. Marr, for some years at Tweed Vineyard, Clovenfords, has been appointed head gardener to Mrs. Wallace, Glassingall, Dunblane, Perthshire.

FINE CINERARIAS.—The strains of Cinerarias that are now in commerce are possessed of numerous desirable attributes. For years improvements have been rapidly made by various hybridisers, until what may almost be termed perfection has apparently been reached. One of the finest strains that we have seen lately is that of Mr. Wm. Bull, King's Road, Chelsea, in which the flowers are of splendid form and colour.

MONS. G. SCHNEIDER.—We notice in the current number of "Le Jardin" that Mons. George Schneider, the President of the French Horticultural Society of London, has just recently been appointed Chevalier of the Order of the Mérite Agricole. Mons. Schneider's labours, both of a practical and literary nature, are well known in the horticultural world, and the assiduity which he has thrown into the advancement of friendly relations between horticulturists on both sides of the Channel has long been deserving of official recognition. We therefore desire to join in the congratulations that he will be sure to receive from his friends on his appointment.

ROYAL METEOROLOGICAL SOCIETY.—At the ordinary meeting of this Society, to be held by kind permission of the Council of the Institution of Civil Engineers, at Great George Street, Westminster, on Wednesday, the 15th inst., at 7.30 P.M., the following papers will be read:—"Mean Amount of Cloud on each day of the year at the Royal Observatory, Greenwich, on the average of the fifty years 1841 to 1890," by William Ellis, F.R.S.; "Atmospheric Dust Observations from various parts of the world," by E. D. Fridlander, B.Sc.; "Analysis of the Greenwich Rainfall Records from 1879 to 1890, with special reference to the Declination of the Sun and Moon," by Major H. E. Rawson, R.E., F.R.Met.Soc.—WILLIAM MARRIOTT, *Assistant Secretary*.

NATIONAL AMATEUR GARDENERS' ASSOCIATION.—Mr. J. Tallack gave a very exhaustive and practical paper on "The Amateurs' Greenhouse" to the members of this Association, at the meeting held on 7th inst. at the Memorial Hall, E.C., and dealt with the various phases of the culture and management of plants likely to be taken in hand by the amateur. Several new members were elected, and the Secretary announced further champion trophies, one from Mr. Weguelin of Shaldon for Carnations, and another for spring flowering bulbs from Mr. Robert Sydenham of Birmingham. These two trophies will be first competed for in 1897. Several books were presented to the newly formed Library, including "The Fruit Growers' Guide," by Messrs. Virtue & Co., five volumes of "Cottage Gardening," by Messrs. Cassell & Co., and others.

THE FRUIT AND VEGETABLE MARKETS OF LONDON.—Arthur Young, that steadfast apostle of the "grande culture," was much shocked, on landing in France, at the sight of cultivators carrying their own produce to market. Mr. W. Glenny, however, in a paper on the fruit and vegetable markets of the metropolis, tells us that, although in the great markets of London—Covent Garden, the Borough, and Spitalfields—much of the selling is carried on by salesmen who work on commission for the sender, and who provide baskets and sacks according to arrangement, but a considerable portion of the growers attend regularly at market from a distance extending over twelve miles, and sell their own goods to the consumer or the distributor. In no other way, he adds, could small gardeners face the competition of to-day. The question of the commission itself is only a small item, for every vendor in the market has rent or tolls to meet; the difficulty is to find a salesman to give sufficient attention to small consignments of herbs and sundries. Salesmen, he continues, can dispose of 100 or 1000 tons of Potatoes; but ten dozen bunches of Parsley, ten dozen bunches of Sage, ten dozen bunches of Mint, ten dozen bunches of Marjoram, ten dozen bunches of Thyme will weary any salesman or his assistant without bringing much grist to his mill. Little parcels of early Radishes, small lots of Vegetable Marrows or French Beans, give labour, but bring in little commission.

— MARCH WEATHER AT DRIFFIELD.—Mean temperature at 9 A.M. (corrected), 43.39°; wet bulb, 41.17°. Mean maximum, 49.35°; mean minimum, 35.43°. Highest, 65.4° on the 25th; lowest, 27.6° on the 13th. Mean of maxima and minima, 46.5°. Mean radiation temperature on the grass, 30.0°; lowest, 20.0° on the 13th. Rainfall, 2.54 inches. Number of rainy days, twenty-two. Greatest amount on one day, 0.72 on the 13th.—W. E. LOVEL, *Observer, York Road, Driffield*.

— WEATHER AT HODSOCK PRIORY IN MARCH.—Mean temperature, 44.4°. Maximum in the screen, 63.6° on the 25th; minimum in the screen, 27° on the 31st. Minimum on the grass, 17.2° on the 13th. Number of frosts in the shade, 7; on the grass, 20. Sunshine, ninety-eight hours. Rainfall, 1.76 inch; rain fell on twenty-two days. A mild month, with average rainfall, but many slight showers. Vegetation forward. Mean temperature for the past quarter nearly 3° above the average.—J. MALLENDER, *Workshop, Notts*.

— SUSSEX WEATHER.—The total rainfall at Abbot's Leigh, Haywards Heath, Sussex, for March, was 2.41 inches, being 0.33 inch above the average. The heaviest fall was 0.27 inch on the 17th and 20th. Rain fell on twenty days. Total for the quarter, 3.42 inches, which is 3.24 inches below the average. The maximum temperature was 64° on the 24th; the minimum, 30° on the 15th. Mean maximum, 49°; mean minimum, 37.27°. Mean temperature, 43.13°—2.93° above the average. Gooseberries and early Plums in the open are in bloom; 1st April showery and rather unsettled.—R. I.

— MARCH WEATHER AT DOWLAIS.—The following is a summary of the weather here for the past month:—Total amount of sunshine, eighty-one and a quarter hours; sunless days, eleven; total rainfall, 6.05 inches; maximum, 0.70 on the 7th; rain fell on twenty-six days. The wind was in the N.W. and W. on nineteen days. With the exception of the last few days it has been a rough stormy month, the wind on several occasions blowing a gale. There has only been frost on three occasions. The totals for the quarter are—Rainfall, 9.20 inches; sunshine, 195½ hours; sunless days, forty; rain fell on fifty-two days.—W. MABBOTT, *Gwernllwyn House, Dowlais, Glam.*

— THE WEATHER LAST MONTH.—March was changeable and showery without any large quantity of rain, and only two frosts worth mentioning—viz., on the 19th and 31st. Only a very little snow fell on the 3rd, 6th, 20th, and 29th. The wind was in a westerly direction twenty-four days. Total rainfall 1.87 inch, which fell on twenty-two days, the greatest daily fall being 0.19 inch, on the 9th and 15th. Barometer—highest reading 30.064, at 9 A.M. on the 10th; lowest 28.454, at 9 A.M. on the 4th. Thermometer—highest in the shade 62°, on the 24th and 25th; lowest 26° on the 31st. Mean of daily maxima, 51.06°; mean of daily minima, 37.09°. Mean temperature of the month, 44.07°; lowest on the grass 16°, on the 31st; highest in the sun 120°, on the 25th. Mean of the earth at 3 feet, 42.58°. Total sunshine, 110 hours 5 minutes. There were six sunless days.—W. H. DIVERS, *Belvoir Castle Gardens, Grantham*.

— FORMATION OF CHLOROPHYLL AND STARCH.—A very extended series of observations on the mode of formation of starch grains and chlorophyll bodies in plants has led M. E. Belzung to the following general conclusions:—The first process which takes place in the embryo is the formation of starch, the result of the activity of the protoplasm of the young embryo. The substratum of the future chlorophyll body—leucite or plastid—is always fully formed by the time the seed arrives at maturity; the protoplasm has always a reticulate structure; it is the protoplasm of the amyiferous vacuoles which constitute the chromatophore or leucite. Those starch grains which are destined to constitute the reserve food material in the ripe seed are an exception to the rule, and increase as the embryo becomes green and the mass of green corpuscles more abundant, the starch grains are resorbed; they form a part of the material for building up the green chlorophyll grains. In adult green organs, especially leaves, the starch grains, which are formed in the light in the chlorophyll bodies, are the result of the assimilating power of these latter, being one of the products of the substance itself of the chlorophyll bodies, a kind of secretion from the green substance. The resorption of the chlorophyll—which in leaves takes place only at the period of the autumnal fall—is, on fruits, effected almost entirely before they ripen. The two essential phases in the life of a plant—the embryonal phase, during which the green cell is built up at the expense of materials which it has not elaborated; and the adult phase, in which its formative activity is manifested by new embryonal conditions—constitute a remarkable example of organic reversibility.—(Morot's "Journal de Botanique" in the "Pharm. Journ.")

— SANTIAGO BOTANIC GARDEN.—We are informed that Mr. T. Söhrens has been appointed to the directorship of the Botanic Garden at Santiago, Chili, he having entered on his duties at the beginning of the present year.

— CHISLEHURST GARDENERS' MUTUAL IMPROVEMENT ASSOCIATION.—The fifth winter session of the above was brought to a successful close on Tuesday evening, March 31st, when Mr. A. Dixon read a paper on the "Cultivation of Caladiums." Commencing with the starting of the tubers, the whole routine of cultivation for obtaining specimens both for exhibition and home decoration was given. Special attention was called to the process of ripening the tubers after growth had ceased, many being lost through inattention in this respect. A vote of thanks was passed to Mr. Dixon for his paper.

— THE HESSLE GARDENERS' MUTUAL IMPROVEMENT SOCIETY.—The last meeting of the session was held in the Parish Schoolroom on Tuesday, March 31st, when a paper was read by Mr. George Wilson, gardener to Sir Jas. Reckitt, Bart., Swanland Manor, on "Crotons and their Cultivation." Crotons at Swanland being a special feature, and well known as the best grown plants in the neighbourhood, Mr. Wilson's mode of culture could be relied on as practical in every way. Referring to feeding, the essayist remarked, that though this was necessary, still he had no particular ingredient to recommend. Where success is most marked it can almost invariably be traced to an untiring energy and perseverance to small details rather than to any special mixture.—F. L. T.

— THE THREE COLD DAYS OF MAY.—"S. S." tells us (April 2nd, page 298), "The May frosts may come after a long spell of mild weather in the winter simply from a change in the direction of the air currents." Proctor wrote in "Longman's Magazine," December, 1882, "The occurrence of certain spells of exceptionally cold weather in February, April, and May is probably owing to the earth passing into meteoric shadow, and having streams of meteors passing between it and the sun. Not in every year, but so often that the fact is recognised by others than the scientific observer, the temperature falls from February 7th to 9th, April 10th to 14th, and May 10th to 14th." If this meets the eye of the President of the Meteorological Society, possibly he may favour us with an *ex cathedra* utterance on the subject.—A. C.

— WINE FROM THE FRENCH VINEYARDS.—Nearly 600,000,000 gallons of claret and Burgundy will probably seem to most persons a fair result of the industry of the French wine growers last year; but this quantity, stupendous though it appears, contrasts unfavourably with former years. To speak more exactly, last year's yield was, in round numbers, 587,000,000 gallons, or 272,000,000 gallons less than in 1894, and about 88,000,000 gallons less than the average of the last ten years. The diminution is attributed almost entirely to the unfavourable weather. The growers are finding consolation in the fact that the average value per gallon of last year's wine is officially estimated at a higher figure than that of the previous year's vintage; but, as our Consul at Bordeaux observes, the correctness of this estimate remains to be proved.

— WAKEFIELD PAXTON SOCIETY.—Mr. J. G. Brown presided at a meeting of this Society held on the 28th ult., and Mr. H. S. Goodyear was Vice-Chairman. Mr. J. Eastwood, Stanley, read a paper on "The Compost Heap." A gardener without compost, he said, was like a general without an army. He had great confidence in natural manure, but not much faith in chemical manure. There were many ways of making compost, but the most important materials were (1) animal, (2) excrement, (3) vegetable, and (4) mineral substances. Dead animals were sometimes used, for Vines especially, in a raw state, but carcasses should be decomposed and mixed with earth to render their manurial value easily assimilable. Nightsoil properly mixed with loam formed one of the richest fertilisers. Chemical manures, he thought, tended to exhaust the soil, besides being expensive. All vegetable refuse in gardens should be collected in heaps, covered with earth, and allowed to rot before use. Lime was also a valuable manurial agent, not of itself, but mixed with peat and fibrous loam, and burnt earth and sods, mixed with soot, burnt hedge-clippings, and drenched with house slops. Mr. Eastwood also spoke of sugar-boilers' refuse, and ground bones as valuable fertilisers. Ground bones should be soaked with water and by adding sulphuric acid and covering the heap with earth, a rich compost for Turnips and Potatoes would be produced. Great stress was laid by Mr. Eastwood on the necessity of preserving all compost from the rain and weather, otherwise its manurial value would be seriously depreciated. A very animated discussion followed the reading of the paper.

— **VEGETABLE MARROW CULTURE.** — "Gardener," writes (pages 305-6) "their fruiting quarters may be a manure or refuse heap, or small mounds on a south border." When I was in a situation I used to grow them so; but now I have to pay 5s. per load for manure, and 7s. or 8s. for turfy loam, it does not pay. I find if ground is manured and dug in the ordinary way, and the Marrows planted on the level the results are quite as good, with less labour and expense — A. L. G.

— **TREE TEMPERATURES.** — These have been investigated by Mr. R. W. Squires, and the results of his investigations are embodied in a paper contributed to the "Minnesota Botanical Studies" for 1895. The observations were made on a specimen of *Acer negundo*, and extended over the first six months of the year. From January to June the temperature of the tree was lower than that of the air in the morning and at noon, but higher in the evening; the lowest temperature recorded was in February.

— **PARADISE APPLES.** — Dwarf Apples, properly so called, seldom grow more than 5 or 6 feet high. An occasional one will reach 10 feet. When they grow taller, it is caused, as sometimes in the Pear or the Quince, by the part grafted on the root throwing out natural roots of its own. The Paradise stock is a small species of wild Apple, growing in the mountains of Asia Minor, and naturally only a strong-growing shrub. It is the *Pyrus pumila* of botanists. Dwarf Apples are very pretty ornaments for small gardens. — ("Meehan's Monthly.")

— **THE AMERICAN FLORIST.** — We have just received a copy of the spring number of our enterprising American contemporary, and as on previous occasions of a similar nature the publication is creditable to everyone concerned. The cover is an artistic reproduction of the Franco-Japanese style of art, while the "process" illustrations in the letterpress are admirably worked. The major portion of the number is devoted to Cannas, and, as will be readily understood, much valuable and useful information is imparted. It need hardly be said that advertisements have a goodly share of the seventy pages comprising the issue.

— **SELF-HEAL.** — The little flower called Self-heal (*Prunella vulgaris*) is very common in most meadows, except in such as have a growth of very tall and luxuriant grass. It is a labiate plant, with a square stem, about a finger's length, and a dense oblong short cluster of blossoms of rich violet, with brownish purple cups and floral leaves. The deep purple of this charming blossom is often so beautiful that one of our eminent artists has been heard to declare that, except in old stained glass windows, he had never seen so rich a hue in any work of art; but the flower is not conspicuous on the meadow. The "Rural World" says that it had the old names of Sickle Herb and Carpenter's Herb, being in early times in daily use as an application to wounds. It has slightly astringent properties.

— **RHODODENDRON MUCRONULATUM.** — This deciduous leaved shrub, raised in the Arnold Arboretum from seed gathered on the mountains near Pekin, and sent in 1883 by Dr. Bretschneider, at that time surgeon of the Russian Embassy in the Chinese capital, is closely related to the Siberian and Manchurian *Rhododendron dauricum*, although, for garden purposes at least, it will, perhaps, be well to consider it distinct. In American gardens, says the "Garden and Forest," it is now a robust shrub from 3 to 4 feet in height, with slender stems, and branches clothed during their first year with smooth, rather light yellow bark. The leaves, which do not unfold until after the flowers have begun to fade, are oblong, gradually narrowed to both ends, and mucronate at the apex, very finely serrate, thin and firm, dark green above, pale and pubescent below, from 2 to 2½ inches long, about 1 inch wide, and short stalked, turning in the autumn, before falling, bright scarlet. The flowers are broadly campanulate, about 1 inch across, and light clear rose coloured, with broad rounded corolla lobes, and are produced in two to four flowered clusters; they appear in Eastern Massachusetts during the last week in April, before those of any other plant of this class, and at a time when comparatively few other shrubs are in bloom. Their brilliancy and cheerfulness, and the splendid colour the leaves assume late in the autumn, make this little *Rhododendron*, which is very hardy, a most desirable inhabitant of northern gardens. *Rhododendron mucronulatum*, which the Russian botanist, Maximowicz (who had made a special study of these plants), considered merely a geographical variety of *Rhododendron dauricum*, inhabits South-Eastern Siberia, Russian Manchuria, and Northern China.

— **POTATO GROWING IN LINCOLNSHIRE.** — A large acreage of land in South Lincolnshire is this season being planted with Potatoes. Not only are the big farmers and little holders planting extensively, but several well known London salesmen, who previously had been in the habit of purchasing the crops as they stood, are themselves hiring land for Potato growing, whilst in some instances they have bought land for the purpose. The southern part of Lincolnshire is noted as a very fine Potato-growing district.

— **CALIFORNIAN ORANGES.** — According to an American contemporary the prices of California Oranges have advanced somewhat in New York markets with the greater scarcity of the West India fruit, and Navel Oranges from the Pacific coast sell readily for 3 to 4 dols. a box at wholesale, seedlings commanding 2.50 to 3.25 dols. Jamaica Oranges bring 9 to 10 dols. a barrel, repacked, and the few now coming from Havana sell for 5 to 6 dols. a barrel, in original packages. Of Oranges from the Mediterranean, Catánias now bring 3 to 3.50 dols. a box, and Valencias 4.75 to 6 dols. a case. The stock of California Navel Oranges, it is estimated, will be exhausted by about the middle of April. A small lot of Florida Oranges, which arrived in New York recently, sold for 5 to 6 dols. a box.

— **MAHERNIA VERTICILLATA.** — This is a sub-shrub or woody perennial which has been cultivated for seventy-five years, and yet it is seen more rarely now than it was thirty or forty years ago. The bright yellow bell-shaped flowers are very pretty and abundant, and it used to be seen often drooping about vases and sometimes in hanging baskets, for it is not a compact upright grower, but rather spreads around in a straggling fashion. In Florida, where it flourishes out of doors, in a single season it will creep over the ground so as to cover a space a yard across, and in a window at the north or in a cool conservatory it will bloom through the winter and spring, and it may also be flowered out of doors in the summer time. After all, says the "Garden and Forest," perhaps the most interesting quality of this plant is its fragrance, the flowers being as sweet as Lilies of the Valley, so that, indeed, it takes rank with *Boronia megastigma* among the plants which are conspicuous for a distinct and pleasing odour.

— **TEA CULTIVATION.** — This forms one of the greatest industries in the Indian Empire, yet few imagine the enormous areas of land devoted to the Tea plant. According to information published by the Revenue and Agricultural Department of the Indian Government it appears that at the end of 1894 not less than 422,551 acres were planted with Tea, the principal districts being Assam, Cachar, Aylhet, and Bengal, with smaller areas in the Panjab, Madras, Travancore, and Cochin. During the past ten years the area has increased nearly 49 per cent., and during that period the tea produced has increased over 88 per cent. In 1894 383,505 persons were permanently employed on the plantations in addition to 156,120 others who received employment temporarily. Of the total Indian tea production about 96 per cent. is exported to the United Kingdom. The home consumption of tea in India is estimated at seven million pounds, and of this quantity about two and a half million pounds are foreign produce, although one million pounds of the latter are from Ceylon. Roughly speaking, the Indian consumption per annum is one-fortieth of a pound to each person, while in the United Kingdom the annual consumption per head is from 5¼ to 5½ lbs.

— **THE CASTOR OIL PLANT.** — This plant grows luxuriantly in the humid coastal districts of New South Wales; as it does, indeed, in most tropical and sub-tropical countries, and in the regions bordering the Mediterranean—viz., Greece, Italy, and Spain. The annual consumption of castor oil in Australasia is over 600,000 gallons, of which 130,000 gallons represent the requirements of New South Wales. Nearly the whole of the supply is derived from India; and the wholesale price of the oil in Sydney is about 2s. 6d. per gallon. The initial cost of establishing the industry would be heaviest in the item of machinery for expressing the oil, although the price of labour would also have to be considered carefully, as the Calcutta oil is produced at a minimum outlay in this particular. Flax cultivation is another neglected industry in this Australian colony. As is well known, the plant not only supplies flax and tow fibre, but also the valuable linseed, of the greatest use as a fodder for cattle, in the form of oil-cake, of which it forms the chief ingredient, also for medicinal purposes; and, above all, says a contemporary, linseed oil, which forms the base of all paint mediums. Cotton-seed oil is imported to some extent, although it could be locally obtained, the cotton plant being capable of easy cultivation in many districts.

CULTIVATION OF THE VINE.*

THE gardener who grows everything well except Vines is lacking in one important phase of his occupation. There are some amateurs who make the Vine a special object of cultivation, and with only space for a small house and a few feet for the border, either outside or in, have grown good Grapes; but the majority of them leave room for improvement. Supposing in starting the Vines we have a temperature of 45°, which will be high enough for the first fortnight, gradually increasing to 60° by artificial means until all the buds have commenced growing, when the average night temperature may range from 60° to 65°, rising to 70° when the Vines are in bloom all should go well. When the berries have set the night temperature may range to 65°, Muscats having a few degrees more, and rising to 70° during the day. As the Vines advance in growth 80° to 90°, with sun heat and air on at the top and in the front, will be beneficial.

Two or more branches usually break from the same spur, but if these are a foot apart one shoot to each will be sufficient, as the leaves must have ample space to enable them to become fully developed. They should not only be large but stout in texture. When the shoots have advanced sufficiently to see which are showing fruit they ought to be disbudded. Great care should be taken in tying out the shoots not to bring them down to the wires suddenly, but doing the work gradually. In thinning a regular system of working must be adopted. I commence by pinching out the point of the shoot two leaves above where it is showing fruit, and as the shoots grow I examine them again. The desired object is to utilise all the space without crowding. By regular attention to the stopping there will be a progressive growth during the season, and the roots will grow without a check.

I give the inside border a slight watering when starting, but not in such large quantities as after the Vines have commenced to grow. When this stage is reached I give a sufficient supply to thoroughly moisten the border, about every fortnight or three weeks, according to the weather and the growth of the Vines. As the Grapes commence colouring the supplies are reduced, but the border never becomes dust dry. Liquid manure may be given with advantage after each watering from the time of setting to the commencement of colouring. The only danger is in giving it too strong. Let the strength be regulated by the condition of the plant and the staple of the border.

In thinning the first thing to decide is the number of bunches to leave on each Vine. The health and strength of the Vine must be considered, and no more left on than it is able to finish well. For a strong healthy Vine a good crop would be about twenty bunches to a 15-foot rafter. If the thinning of the berries does not receive early attention, the strength of the Vine is impaired. I commence as soon as I can after the berries are set, and thin to such an extent that when fully grown the Grapes do not crowd each other, as this prevents the proper swelling. Do not rub the berries, or they will not colour well.

I give air before the temperature rises too high, and then in such proportions as not to reduce the heat, and always in such a manner as to exclude draughts. In spring, when the shoots are young and tender, air must be admitted cautiously, because chills injure both the young foliage and the Grapes, especially immediately after setting. Good ventilation or a free circulation of fresh air on all favourable occasions is essential to success. From the time of starting the troughs on the pipes should be kept full. As the buds break and lengthen more moisture will be required before closing the house. Syringe the Vines with water of the same temperature as the house, but let this be regulated by the state of the weather; but as the Vines come into flower this must cease. On bright days sprinkle the floor, paths, and walls twice to keep the atmosphere moist, less being needed in dull weather. As the Vines come into bloom maintain a rather drier atmosphere, but when the Grapes are set it ought to be damp again. Moisture in the air is most needed when the shoots are young and when the fruit is swelling, but as full size is approached the air of the house should become gradually drier, and as the fruit is ripening afford abundant supplies of air during the day, and leave a little on all night.

When the leaves have fallen or are yellow remove all loose bark, avoiding injury to the buds. Before pruning scrub every part of the house thoroughly with hot softsoapy water, to kill any insects that may be lurking in the cracks and crevices; the glass also being accorded the same attention, so that the Vines may have the full benefit of sun and light, as both are most essential during the early spring months. This done, the wall should be whitewashed. In pruning I cut in each of the side branches to one or two buds. After the Vines are pruned thoroughly dress with a mixture of Gishurst compound, at the rate of 12 to 14 ozs. to the gallon of water, adding softsoap and clay.

When Vines have exhausted the compost in which they are growing a renewal of the surface will in most cases enable them to bear full crops of fruit for several years. The soil should be rich loam, mixing with it prepared bones, horse and cow manure, bone dust, and charcoal dust. After removing the surface soil place on the fresh soil, covering the border if outside with leaves or litter to keep out frost.

THE NEW ZEALAND FORGET-ME-NOT.

THIS is the plant to which "A Young Gardener" refers, and it is one that is considered difficult to flower successfully. The family to which *Myosotidium nobile* (fig. 56) belongs includes a number of the most floriferous of our hardy plants, and from the vigorous habit of the plant we should expect an equally free-flowering character.

The system generally adopted is simple in the extreme. The plants are grown in a compost of loam and leaf soil, with one-third horse-droppings and a plentiful admixture of sand to render the soil porous, for though water has to be supplied liberally the slightest approach to stagnation about the roots must be carefully avoided. A cold frame is found to be the best situation where ventilation can be given freely in fine weather, but where also adequate protection from frost can be afforded. The plants start into growth quickly in the early spring, and the leaves advance rapidly, the flowers this season having commenced showing at the commencement of April, and at the meeting on the 13th, when exhibited, they were fully expanded on the majority.

Myosotidium nobile was first introduced to this country through Mr. Watson of St. Albans, and plants were exhibited in flower at one of the London Horticultural Society's meetings in March, 1858. The plant is a native of the Chatham Isles, near New Zealand, and is botanically notable as presenting a combination of the characters of several genera in the Borage family, its chief resemblance being to *Myosotis* and *Cynoglossum*; it was, indeed, first assigned to the last-named genus, but was subsequently separated under the name it now bears. The leaves are heart-shaped, 8 to 10 inches in diameter, of a bright shining green colour with deep veins, and they have been compared to the young leaves of Cabbages, to which they possess some resemblance, but the green shade is darker and brighter. The flowers are produced in an inflorescence somewhat like that of the *Myosotis*, and is termed a scorpioid raceme or cyme. The corollas are about half an inch in diameter, of a brilliant blue colour in the centre shading to white at the margin, and much like the common Forget-me-not in shape. They have a delicacy of beauty that is very attractive, and when once it is found that the plant can be flowered easily and constantly it is certain to become a great favourite.

A LOOK ROUND.

NOTWITHSTANDING the late cold winds and driving rains our gardens are beginning to look wonderfully attractive. Lawns, pastures, and hedgerows have assumed that deep green tint which proves the richness of our native soil, the buoyancy of the atmosphere seems also to stir up within us those unbounded feelings of hope and vigour which are ever associated with spring time. No matter if the wind is keen so long as old King Sol favours us with his cheering warmth and brightness. At such moments who would not away from the toiling din of crowded cities and feast in the repose of a garden, field, or country lane? I often think it is somewhat of an anachronism to talk of the "blessings" of civilisation, when its tendencies go to prevent the vast majority from enjoying—except in a meagre way—Nature's free blessings, pure air and sunshine. These thoughts rose in my mind as I was tempted to spend a short time in looking round to enjoy the "pleasures of gardening," as well as to see how things were "doing." I was not long in convincing myself that my time was being well spent, for so many affairs appeared to want just a little attention that I found the shades of evening drawing nigh before my peregrinations were completed. So much that was interesting cropped up that it occurred to me a few notes on my "look round" might be useful to Journal readers by reminding them of plants or shrubs they ought to have or things they ought to do.

Coming by a lofty building with a southern aspect near the flower garden, a sheet of ivory white catches the eye. Oh! how glorious! No garden should be without such a sight as this, for it is produced by a hardy shrub or climber, that old favourite *Magnolia conspicua*. The large cup-shaped and deliciously scented flowers may be counted by the thousand, for the tree is fully 18 feet in height, and from base to summit there is scarcely room at any point to place the finger between the flowers without touching a petal. These flowers are not only chaste in appearance and delightfully perfumed, but are also extremely useful for Easter decorations. Ask those who carry out such in our churches what flowers they prefer for the purpose, and I think you will find none more popular than these *Magnolias*. I will add to the good qualities already enumerated the important one that *Magnolias* are the easiest possible shrubs to manage. Their culture consists in planting against a wall in a warm position, training the shoots to cover the

* Abstract of a paper read by Mr. JAMES SIMMONDS at a meeting of the Rotherham Floral and Horticultural Society.

allotted space as fast as they will grow, and in future years thinning them to prevent overcrowding.

On the same building is a noble giant in the form of that unique old climber *Wistaria sinensis*; it covers a wonderful area of wall, and in all directions the wood is bristling with flower buds just ready to burst. In a few weeks this will be a sight to "see and remember." In the treatment of this climber the orthodox plan of laying in long shoots to cover the available space, and then spurring them closely back each year, has not been pursued, but young shoots are being continually trained in all directions, and worn-out ones removed. In this way it is easy to cover every foot of space with flowering wood, for this young wood produces abundance of short

This is certainly a happy combination, which others would do well to follow.

In the shrubberies near by *Berberis Darwini* and *B. dulcis* are in full beauty, their pretty yellow drooping bells having a quiet charm of their own. *Ribes sanguineum*, near by, is by no means to be despised, for though common it is showy, and will grow in dry positions partially shaded by trees, where many things will not. Among shrubs that succeed as standards there is nothing flowering at the present time so showy as the Almond (*Amygdalus communis*), every shoot is literally a mass of pale pink; a few standards dotted among shrubberies impart a brightness which all who see admire. Daffodils and Hyacinths growing from a carpet of rich green grass



FIG. 56.—NEW ZEALAND FORGET-ME-NOT.

natural spurs from 2 to 3 inches in length, which flower at every joint.

It is not often that three veritable "gems" among flowering shrubs are found growing side by side, but they are certainly in evidence here; that which completes the trio is *Cydonia japonica*, and I fancy it would be difficult to find any hardy shrub, flowering in March, more noted for the brilliancy of its flowers. The plant under notice is grown in a somewhat novel way, for it is trained over the stems of the *Wistaria*; the latter seems to have had no training in its youth, the result being from the ground line to a height of 8 feet a number of thick branches are interwoven in such a way as to form an admirable trellis. Some shrewd gardener years ago took advantage of this, and planted a *Cydonia* at the base of the *Wistaria*, or rather on one side of it. The *Cydonia* has made steady progress, till it has now almost covered the gnarled old stems that support it, which now look gay with wreaths of scarlet.

make a gorgeous display. This is truly a form of natural gardening which has much to recommend it, for it turns to good account the best of the bulbs that have been forced, and supplies flowers for cutting with a minimum of trouble.

In the flower garden I do not find much that is attractive just now, but the promise of a wealth of bloom in a few weeks. Bulbs we have not used in the beds this season, knowing the family would be away at the time when the bulk of them flower. Here, however, we find plenty of work to be done. Edges of *Arabis*, both the variegated and green leaved form, require a little clipping into shape, so as to give them a trim appearance when in flower, as their buds are beginning to open; edgings of *Sedum acre aurea* look very attractive, the gold tipped points of their leaves shine brilliantly on sunny days.

These edges also require a little trimming now to get them in proper shape, and prevent them from overrunning the Box

edging. Edgings of *Cerastium tomentosum* demand similar attention. As soon as work of this description is completed every bed requires to be put in perfect order. As an instance of what is necessary, let me give a few illustrations. Here is one filled with *Viola The Dairymaid*, which is beginning to grow freely, and is showing abundance of buds. On a dry day the small stones on the surface should be picked up, the soil pressed firmly around each plant, and the whole surface then stirred with the hoe. This bed is edged with a band of crimson Daisies, which are just opening their flowers. These early ones seem to have wonderfully vivid colours. Those two large beds of *Wallflower Sutton's Dwarf Bedder* (yellow), edged with *Aubrietia deltoidea*, promise to be a glowing mass of colour in a short time, but to hasten that time it is necessary to stir the soil frequently during sunny days, to let in the warmth and encourage rapid root action. Beds of *Silene* are looking remarkably well; as the early season suits them, it will bring them into flower contemporary with the majority of other plants.

Pansies raised from seeds obtained from the best English and continental firms are struggling to unfold their flowers, but are not likely to do so freely till these cutting winds have passed, then I am looking forward to a feast of beauty, abounding in marvellous combinations of colour blending.

When I started on my "look round" I intended to make a perambulation of each department, but too much pondering on the glories of the times to come, and the bestowal of a little attention on so many things requiring it, prevented me from accomplishing this, and by the time the sun had set I was left with a half-completed round; the other half I hope to do under more sunny skies.—H. D.

GARDEN PESTS AND ANTIDOTES.

(Continued from page 307.)

EARTH PESTS.

MANY pests of crops are of a hybernating nature, and not a few lurk in hiding places on trees, or shrubs, or plants during the winter, and in the summer (in the daytime) coming out at night to feed. Some take the trouble to hide in the earth by day, and come out at night to feed on vegetation; others pass a period of their existence feeding on the roots or underground parts of plants, and in the perfect state take to an aerial mode of life, while some never do anything but feed constantly on the roots, and others pass their whole existence above ground. This gives us two well-defined spheres of action—the roots and the tops of plants, and admits of our subject being divided into soil pests and air pests, as regards general methods of treatment.

SOIL PESTS.—Without entering on a description of these, it will suffice to say that it embraces all insects that live, hide, feed, or subsist in any form in the soil. All have different life histories, and some at this time of year are adult, others pupæ, some grubs or maggots or caterpillars, and not a few eggs. All these forms of pests existing in the soil are killable. What, eggs and pupæ? Why not? Every naturalist knows how easy it is to addle the eggs of birds, reptiles, molluscs, cretaceans, myriapods, and arachnoides by processes contrary to their inherent aptitudes, physically or chemically. But insects nothing will kill in the egg or pupal stage short of the destruction by fire, mechanical force, or annihilation by chemical process. Just so. Fire, burning soil is a costly practice, only resorted to in this country on moorland encumbered by worse than useless Gorse, Heather, and other rubbish; on hill pastures, or rather meadows, burdened with bottom grass, so as to foster swarms of voles; and on strong clays, that are thus made suitable for high-class gardening.

Mechanical force, such as hailstorms, grand as they are for killing aerial pests exert little influence on grubs, maggots, and other soil vermin. But there are floods, prolonged and heavy rains, which drown untold myriads of plant-root enemies. Then there is the drought, when millions die of sheer starvation, and the opposite of those the frosts, when all that get frozen "stiff" melt on thawing. How many ground pests fall beneath the hoofs of animals? Man's broad foot slays its tens of thousands.

Coming to the chemical side of the question, which applies almost exclusively to the soil, a purely chemical compound out of which everything solid or liquid is constructed from the lowest class of plants, the Myxomycetes, consisting of naked protoplasm and endowed with animal-like movement, with power of smelling out the food essential to their existence, up to the highest order, embracing the gorgeous *Ranunculi* and clinging, charming *Clematis*. Likewise, in the animal kingdom, from the lowly Protista combining vegetable with animal functions up through the worms and quadrupeds to man. All—vegetable and animals—are like the earth from whence they spring and by which they subsist,

chemically compounded. If anything is amiss with plants it is sought to rectify it by mechanical or chemical process, and it is the same with the animal. Both require a certain environment, and a given nutrition to be healthy, which is wholly chemical and governed by natural law. Nature can make nothing but by that law, and man neither prevent nor cure diseases in either animals or himself or in plants but by chemical agency whether of air or soil.

Certain substances are needed by all living things. It is not a question of one substance, but of a plurality of elements, for too much of one substance surfeits, and too little of another deranges the functions in the opposite direction. Some elements are food, others are poison; some substances are injurious separately, but blended are beneficial; indeed, it is this combination of chemical constituents suitable or unsuitable to the individual, in conjunction with environment, which is equally important with the food. One plant will thrive in a soil where another dwindles away; another plant will flourish in the "heart" of a smoky town where another is soon stifled. It is similar with ground pests. They are as variable in likes and dislikes as in forms and modes of life, but they can only subsist under certain conditions and upon given foods. If these are taken away they die, and something else comes and thrives on what was rejected by a preceding plant or animal.

Assuming, as we have a perfect right to do at this time of the year, that the land, it matters not how or for what crop, has been properly prepared by ploughing, digging, cleaning, and manuring; but we have to face the fact that much land has not been given any cultural attention whatever, which seems a feature of the times. In respect of the first condition, how many ground pests have been destroyed in the processes of ploughing, digging, harrowing, cleaning, and providing a good tilth. Take a foot of such earth, search it through, and note the number of "live" things in it, then take a foot of earth from land foul with weeds and left unmoved all the winter, and count the creeping and living forms it contains. Use only a pocket magnifier in the scrutiny, and putting the figures in order to see how much greater is the number of earth pests in foul than in the clean land. The difference may astonish.

If I know anything about such pests they hate culture, and the more the land is knocked about in essential cultural operations the more plant and crop enemies are "knocked on the head," and the more the birds feed and fatten on those exposed, whether in egg, grub, maggot, caterpillar, or pupal state, while the weather numbs and kills many before they can regain snug warm quarters. Perhaps the land was manured in the autumn, a capital plan, with stable or farmyard manure as a preparation for root, Potato, and vegetable crops, especially when the land is loamy or heavy, as it tends to keep the soil open and let air and rain and frost into it, while the manure decays and the soil lays hold of the liberated elements. On light land, and when applied at the time of sowing or setting crops, the manure should be well decayed and put on in the spring. This makes little difference as regards current pests, it makes much as regards the land and the presence of pests in the coming season, for fresh "muck" in the spring time is only so much breeding stuff for pests.

Perhaps it is orchards in grass some are thinking about. Well, these are, like arable land, well or badly cultivated. The more a grass orchard is trodden, and its grass shorn by sheep, the fewer ground pests there are in it. If used in the summer for poultry rearing there will be fewer still, for nothing in the shape of an insect within their reach above the ground or on it escapes their attention. They are a little fortune to an orchardist by converting ground pests into marketable substance. Indeed, where they will not do any harm by scratching and eating what they ought not, they are worth their value as insect killers. Where the orchard is mown once or even twice, and never "eaten on," there is always just the bottom shelter for field voles to harbour in, beetles and weevils to increase among, and grubs, pupæ, and everything vile to winter safely.

Cultivation may not be everything, but it goes a long way in killing the ground enemies of crops. Grass orchards cannot have the grass too short, nor can they have too much of the urine of sheep. Grubs do not feed on the liquid of animals, hence there is life and health in sewage for vegetation; but so much cannot be said of the solid refuse. Then there is iron in sewage, about 4 grains to the gallon, and that in conjunction with the ammonia of the liquid makes a considerable difference in the health of the trees, hence the hint may be of service to those letting such valuable stuff run to waste in ditches and streams. There is yet time to empty cesspools, and pour the contents, properly diluted, on grass orchards. If 1 lb. of iron sulphate is added to each 100 gallons, and left a time, it will reduce its offensiveness, and increase its fertility.

The land will vary considerably in texture and condition, but assuming that it is in an average state of cultivation, and has not

been treated with commercial fertilisers, it may now receive, or at the time of sowing or planting the crop, the customary dressing. This is all that is necessary in most cases, and every one of the chemical fertilisers not containing organic matter are insecticides, for pests cannot live on inorganic matter until it is organised by the plant. This derives its food solely in the form of chemicals—chlorides, nitrates, phosphates, and sulphates of calcium, iron, magnesium, potassium, and soda. Chlorides mean chlorine, nitrates nitric acid, phosphates phosphoric acid, and sulphates sulphur. The salts enter the plant by the absorbent surfaces of the roots and pass upwards, through the stem, to the leaves and the new-forming buds, and these parts, which are unfolded to the air, gather from it carbon dioxide gas. This compound is decomposed in the plants, its carbon remains there and its oxygen, or very nearly an equivalent quantity, is thrown off into the air again. From the carbon thus acquired the plant organises the carbohydrates, starch being the first product recognisable by the microscope. The albuminoids require for their production the salts of nitric acid, and the fats, alkaloids, and acids are built up from the same food elements. The carbo-hydrates and albuminoids diffuse from the leaves or green parts to every active organ of the plant, and thus this becomes food for animals and fungi from the root-hairs upwards to the glands and hairs of the leaves or green parts. Even in decay and fluid form the organic matter of the plant is ingested and digested by lowly forms of animal life, and really is not safe from attack until resolved at last into chlorides, nitrates, phosphates, and sulphates—purely chemical compounds—the whole and sole food of the plant.

It is absolutely necessary to understand the principles governing the vegetable and animal kingdoms, which, though merging into each other in their lowest forms, have two distinct modes of existence and no analogy whatever in functions. The plant subsists solely on inorganic matter, the animal and parasite feeds exclusively on organised substance. Inorganic matter is food to vegetation, to the animal it is poison, or in small amounts what we term condiment or medicine. To the animal in this form it is an inorganisable substance, and the organism of the animal structure has no power to appropriate or eliminate such matter but by reason of the organised elements it has derived from an organised substance, either directly from the vegetable or indirectly from the animal; this latter makes a distinction between the animal living directly on the first organised substance—the plant, and that living secondhand carnivorously or parasitically on the animal or already organised matter. The carnivora and parasite are not considered wholesome food; but this is solely a matter of taste and of fitness, as some are considered dainties and others loathsome.

This difference in food rests solely on chemical principles, prevention and cure of diseases being wholly founded on those grounds. It is recognised alike by patient and practitioner that there is a cause for a certain malady which has produced certain effects, and that to perform a cure substances known by experience must be administered, either to eliminate offensive or supply defective elements. This must be done without prejudice to the afflicted plant or only temporary, and so act as to restore the normal condition, thus enabling it to recuperate. Under this *régime* come manures, which, especially chemical, eliminate offensive matter and supply material for recuperation. Some do more than this—namely, act as poisons to parasites or otherwise destructively to them by their chemical energy, while promoting the well doing of the plant. Others not only destroy parasites but injure or kill the infested subject, and in no sense act beneficially on either the food of the organism or on this itself as regards the future. I will refer to manures as food for plants and as poison to their enemies another week.—G. ABBEY.

(To be continued.)

DOUBLE PRIMULAS.

THESE flowers are too well known and justly appreciated to necessitate any eulogistic remarks from any pen. Sufficient evidence of this is easily acquired by a knowledge of the demand not only for the plants but for flowers in a cut state in the market. On this account they are very largely grown by skilled market growers, especially the old Double White, named *alba plena*, and it is surprising to notice their great superiority to the majority of the plants so frequently seen in private gardens. The great difference of effect, like everything else, is regulated by the causative operations at work in the production of such dissimilar results, and leads us to ascertain the best methods adopted in their successful cultivation.

There are two fairly successful methods of increasing these plants—viz., by earthing-up the side shoots and by cuttings.

Presuming that we have old plants to deal with at the present, which is the best possible time to handle them, it will be necessary, if the plants have been subjected to a temperature higher than 65°, to harden them in a lower temperature for a few days, when the shoots should be cleansed from all the old persistent footstalks, of which there is usually an abundance. I have found Grape scissors very convenient for the purpose, after which the pots should be filled with soil up to the active crowns of the plants, and if an incision is made in each shoot it will facilitate root action. The soil employed for layering—good fibrous yellow loam, leaf mould, and coarse silver sand in equal parts—should be well watered round the shoots. The plants ought then to be placed in a close pit or house with a moist temperature of from 65° to 70°, and be kept shaded and moist. They will be well rooted in about three or four weeks after being treated, and may be severed from the parent plant and potted singly in small pots, using the same compost, placing them again in the same temperature until they are well established, when they may be gradually hardened. It is very beneficial to keep the small plants as near the glass as possible, and well shaded. By this means with care there is no reason why every shoot should not be quickly converted into a well-established plant.

They may also be increased by cuttings, and this is a very convenient method when there is a constant demand for young stocks. They can be taken from the plants with a good chance of success any time between March and August. In all cases the cuttings should be well hardened before being removed from the parent plants, and with a portion of the mature wood attached. Each cutting should be carefully cleaned, and inserted singly in well-drained small pots filled with soil like that described for the layering process, with a copious supply of coarse silver sand on the surface, and for this as well as most other purposes the coarse Bedford sand is preferable. The pots should then be plunged in the propagating case with a bottom heat of from 65° to 70°, a higher temperature being, judging from my experience, not desirable. The cuttings should be well watered, after which they will require little or no more water until they are rooted. If so it should be given carefully, allowing as little as possible to rest on the foliage. They will usually root in a fortnight or three weeks. They must be kept well shaded during sunshine. It is not absolutely necessary to have a hotbed to plunge the pots in, as the cuttings will root freely enough under a hand-light in the same temperature. After being well rooted they may be removed, gradually hardened, and kept in the small pots until the latter are well filled with roots.

Supposing this stage is reached by the middle or end of June, they should then be shifted into larger pots, say 54 or 48 sizes, using as the compost for potting fibrous loam, leaf soil, and sand; if the 48 sized pots are to be the flowering size, the mixture will be more useful to the plant if an equal part of well-decayed cow manure is added. They may then be grown in a cool house near the glass, with a cool base for the pots to rest on. The necessity of perfect drainage cannot be too strictly enforced, no small amount of success depending on this receiving proper attention; or they may be placed in a cold pit or frame facing north, or in a shaded position, when they should be kept close for a time, only giving air during mid-day. The time of placing them in the cold frame must, of course, be regulated by the weather. If cold and dull, they are best kept in the house rather later, or until favourable weather sets in. If the pit is very deep the pots should be arranged upon others inverted; and in places where only a small number is grown this will be the wisest course to adopt, as it insures a more copious supply of air amongst the plants, and allows of perfect drainage. Ventilation should be effected by tilting the lights from below rather than sliding them down.

During the month of August and early in September, if the nights are warm and moist, it will greatly benefit the plants if the lights are entirely removed, replacing them again early the following morning, as the dew which usually prevails during the night appears to suit them, and during these months I find they make very rapid growth. It is likely that if the plants are developing properly they will require repotting, which should, however, not be done till the old pots are well filled with roots, as they do not like to be overpotted. The pot employed for the final shifting may be 6 or 7 inches wide inside, just giving them a fair increase of root-room, using the same kind of soil. If it is necessary to keep them in the 48-sized pots, they may be fed with weak liquid manure twice a week, which will materially assist them. In any stage of growth particular attention must be given to watering. When in active growth they must never be allowed to get dry, and copious supplies may be given them provided the drainage is efficient. Owing to their propensity for perpetual flowering the young plants will constantly be throwing up flower spikes, which should be at once removed, so as to give the plant the benefit of all the strength to be derived during the growing

period, otherwise its cumulated resources will be very small when most required for winter blooming.

As the autumn approaches and the nights grow cold, it will be necessary to remove the plants to their winter quarters in the greenhouse. For ordinary conservatory and greenhouse decoration they are well adapted, being of a most floriferous disposition, while at the same time for expediting flowering they can be placed in a higher temperature, and will flower equally well.—GROWER.

THAT PRETTY GARDEN.

"YES! you are a public benefactor; for your garden is always pretty, and quite an ornament to the locality." This is often said, and I like to see the place well kept up and to have flowers outside in every season. Perhaps some of your readers may like to know what plants are utilised to secure this flattering remark and brilliant show over such a long season. My house is about 100 yards from the main road, and as you enter there are ranges of vineries and plant houses on your left, and on the right hand at an angle following the line of the high road for 200 yards is a lawn with a gravel path next to the front railings, and the lawn is continued facing you on the right to the house, about 18 feet wide, on the level of the carriage drive. Privacy is obtained by planting three elegant trees—viz., Scarlet Chestnut, Silver Birch, and Almond, with a hedge of Laurel (for the winter), and Sweet Briar for its scent, beautiful flowers in June, and red heds in the autumn. About 24 feet from the gravel walk we have a hedge of Oval Privet, and from the lower end of the house a hedge of China Roses, Berberis Darwini, Cotoneaster Simmondsi, while in the summer the white Bearbind (*Calystegia dahurica*), Nasturtiums, and Everlasting Peas twine in and out of the evergreens, and I hope to get the scarlet *Tropæolum speciosum* to grow there. Thus my lawn is like a letter L turned the wrong way. Therefore when you enter you secure a pretty peep in two ways.

In front of the vinery on your left is a 12-feet raised border, on which *Violas* show to the greatest advantage, and blossom both early and late. I find the most effective are *Champion* and *Snowflake* (white), *Countess of Kintore* (violet and mauve), *Cliveden* (purple), *Cliveden* (blue), and in yellows, *Sovereign* and *Yellow Queen*. On the front lawn, where the land rises a little, I have made nine oblong beds with ten circular beds of 3 feet over in front of them, about 2 feet from the gravel walk, to cut in the openings of the oblongs. A 10 feet border before the background of Privet hedge is filled with herbaceous plants, and a few bright Zonal Pelargoniums dotted here and there to give colour at such times when the mixed border requires it. The Privet hedge is cut in once a year, so that it is not formal, and it forms an effective setting for the plants in the border.

The oblongs are filled for early spring work with Tulips, one bed of a kind, and Van Thols in the circular beds; at another time, *Silene* in the circulars and yellow and blood red Wallflowers in the oblongs, and are most effective. For summer, some of the beds are edged with *Stachys lanata*, others with *Pyrethrums* and *Lobelias*, and the centres filled with the best Zonal bedding Pelargoniums, such as *Henry Jacoby*, *Vesuvius*, *Brighton Gem* for scarlet, and *Christine* for pink, while Mrs. Bartleman (a soft cerise rose), a local kind toned down with *May Queen* and *Bijou* among the silvers, and one of *Crystal Palace Gem* (golden) alternated with the more glaring colours render the view from the entrance very cheerful. The round beds have bronze and Mrs. Pollock Pelargoniums edged with a white-leaved close-growing plant, a kind of *Gnaphalium*. The flowers in these circles are picked off, and foliage alone gives colour. On the opposite side to the *Violas* on the Vine border is a long bed about 5 feet wide, and this is filled with Tulips for the spring. These are left in the soil, and I sow some pretty annuals on the bed.

In the centre of the lawn before you come to the long raised border there is at the far end a heart-shaped bed which last year provided a grand show of *Chrysanthemum segetum* (improved variety). This was self-sown on a bed of English Iris, and was for months most charming. Another bed towards the front was filled with about 100 of scarlet *Lobelia Queen Victoria* for an autumn flower with a carpet of white *Virginian Stock*. The centre of this wide lawn has a small 3 feet circle, in which a fine Scotch Thistle flourished, carpeted at the base with Shrubland Pet Geranium. The raised border falls to the lawn, and is curved in and out, a few trees being planted at the back. Conifers cannot endure the smoke, and a solitary *Wellingtonia* in this border does duty for that family, but a background is given by triangular patches of variegated Maple, *Prunus Pissardi*, *Siberian Lilac*, *Spiræa confusa*, and *Berberis stenophylla*. Next to the grass in this border

and the one up to the road is a thick line of yellow *Crocus*, which is grand in its season.

The rest of the garden is given up to fruit, vegetables and flowers, and being effectually hidden from the road is very enjoyable for a stroll in the warm evenings, while in the winter a reserve of Hollies shuts out the house from the view. About half way from the entrance to the house is a cross path on the right to the upper garden and on the left to the houses. Further along on the left is a very interesting spot. The wall of a span-roofed greenhouse was objectionable, so a set of ten tanks was introduced along the whole length backed by a narrow border, in which next to the wall are planted a few semi-aquatics, such as *Mimulus*, *Iris Sieboldi*, *Lythrum*, *Trollius*, with wild Ragwort, the wall at the back having Ivies for the winter view, as this part is in full view of the house windows.

Following the line of the road the level falls, and hence we have tanks from 6 inches to 2 feet deep for plants requiring partial or total immersion. The water is introduced at the shallow end, and passes through pipes from tank to tank, from front to back, and empties itself in a large tank behind the greenhouse, which supplies water for inside use, and the hard water of our district is softened and made more fitted to the plants by passing through the aquatic tanks.

In the deeper ones next the house we start with the Scented Rush, and Water Plantain next a tank of white Water Lilies, then one of yellow, and, to make a change, Arum Lilies are introduced in the summer. A tank of *Ranunculus lingua* is conspicuous, and its evergreen foliage is welcome below the water in the winter months. The Cotton Grass comes in, and among the *Juncus zebrinus* forms a pretty floating carpet. The elegant *Villarsia nymphaeoides*, with its interesting yellow flowers, makes a diversion. Some Reed Mace (*Typha*), the Flowering Rush (*Sparganium*), and a tall *Juncus* with brown flowers also find place, while in the more shallow tanks *Butomus umbellatus*, Plantain, and the double Arrowhead are at home with the spring-flowering Arums, *Calla palustris*, the Frogbit, and Forget-me-not for companions. We hope to increase our stock of aquatics, as from May to November these tanks are a great pleasure. In order to relieve the flat of the tanks the outer edges have cups of stones built in at intervals, and in these the dwarf *Campanulas*, *pumila alba* and *imbricata*, *Saxifraga lantoscana*, *Saxifraga ajacifolia*, *Lysimachia nummularia*, Musk, and Sedums, are grown. Between the cups to hide the wall the purple-leaved *Oxalis corniculata rubra* and Musk form a pretty base, which is very pleasant in the summer evenings.

Our raised borders are a constant delight. In the early spring masses of the blue Squill appear under the Sweet Briar hedge, Aconite and early Daffodils following. Then the *Doronicum austriacum* struggles into its yellow flowers, and *Aubrietia purpurea*, and *Leitchlini*, with *Arabis alpina* herald the spring. *Ranunculus amplexicaulis*, *Anemone sylvestris*, with *Iris reticulata* and *Iris germanica pumila*, also assist in beautifying the whole. In the summer time the most effective masses are Thrift (*Armeria Lauchiana*), *Helianthemum vulgare*, in sorts (Rock Roses), *Anthericum ramosum*, various German Iris, the early purple Victorine and dalmaticum being prominent; grand masses of Pæonies, and here and there masses of *Spiræa*, *Delphinium*, double and single *Pyrethrums*, with *Dielytra spectabilis*, *Violas* towards the edge, and masses of Mrs. Sinkins and *alba fimbriata* white Pinks, *Geranium*, *Eriostemon*, Foxglove, Oriental Poppies, Golden *Trollius*, and the glorious *Doronicum Harpur Crewe*, with low masses of Rock Phloxes and *Dianthus arenarius* and *cæsius* are conspicuous.

In August we have such majestic plants as *Galtonia candicans*, *Harpalum rigidum*, the blue Thistle, *Echinops ritro*, white and pink Japan Anemone, tall Phloxes, *Bocconia cordata*, *Eryngium amethystinum*, *Lythrum superbum*, 8 feet stems of *Echinops sphærocephalus*, *Verbascum olympicum*, Red-hot Poker (*Tritoma*), Hollyhocks, Golden Rod, hardy Sunflowers, *Aquilegia chrysantha*, *Galega officinalis alba*, *Centaurea montana*, *Harpalum rigidum*, *Rudbeckias nitida* and *Newmani*, *Montbretias*, orange Lilies and white Trumpet Lily, purple and red Bergamot (*Monarda*), Michaelmas Daisies of every style and colour, Rockets, Monks-hoods, with light masses of Cornflowers and *Coreopsis*. Near the house are Wallflowers for the spring, and Carnations for cutting. In a kidney-shaped bed in front of the house we are now making a rockery shaded by a pretty tree of the *Thomasia* (*Gleditschia*), which we hope to make a success, though the smoke and dust of the town is fatal to Mossy Saxifrages, Gentianas, and many choice gems.

In brief notes of this sort one is sorry to omit many good things, and among those not named I should recommend amateurs to try the beautiful class of hardy Larkspurs (*Delphiniums*), with their peacock-like colours and blends of azure violet and slate blues; a few of the best Grasses for cutting and effect, as *Agrostis nebuloza*, *Bromus brizæformis*, *Arundo colorata*, and Ribbon

Grass. We also grow the striking *Liatris* or Blazing Stars, Pentstemons, and autumn Chrysanthemums. A bed of the white and yellow Marguerites with Cannas is very striking. We, of course, admit Asters, Stocks, Zinnias, and all good annuals to a share in the borders, also Potentillas, Columbines, patches of Lavender, and a whole host of Michaelmas Daisies, from the brilliant Aster *bessarabicus* to the taller Robert Parker, the delicate *turbinellus*, and the best pure white kinds.

Roses are not a success, they need purer air; and our soil is too dry for *Rhododendrons* and *Azaleas*. Last summer a very interesting long bed was made up by edging with silver-leaved *Geraniums* and making panels about 6 feet wide, in which alternate beds of *Petunias* double and single, *Heliotropes*, and *Verbenas* from seeds were introduced. The sturdy informality of this was very pleasing, and it is evident that the seedling *Verbenas* are much more robust, and to be depended on than are plants from cuttings.—FLORA K.

PEACH AND NECTARINE TREES CASTING BLOSSOM BUDS.

(Concluded from page 297.)

THIS difference in the conformation of the buds is not confined to the large-flowered varieties exclusively, but they are more prone to form the buds early than the small-flowered, yet there is a point quite apart from inherent tendency or race proclivities which seems to govern the whole question of bud-casting, which is imperfect bud formation, or, as it is sometimes termed, over-maturity, especially in the case of early forced trees of both Peaches and Nectarines. The latter being but smooth-skinned Peaches—the red varieties, *Madeleines* and *Mignonne Velontée*, and the white or yellow of the *Noblesse* races—what applies to one is relevant to the other, hence that part of the subject need not be farther pursued, as there is no difficulty in seeing that *Elrue Nectarine* is only a *Royal George Peach* with a smooth instead of a downy skin.

All the large-flowered very early varieties, such as *Alexander* and *Waterloo*, are liable to cast the buds when early-forced in consecutive years, and when trained on the orthodox trellis system. On the other hand the small-flowered varieties, such as *Early Louise* and *Early Albert*, retain the buds well, as a rule, and set the fruit capably. The flowers of these varieties are *Madeleine*, and carry enough pollen to fertilise as many acres of blossoms as the trees occupy yards. Here then, if anywhere, is eagerness, energy, potency of pollen, hence the value of such varieties for impregnating those producing pollen sparingly, such as the *Grosse Mignonne* and *Noblesse*.

The buds of *Alexander* and *Waterloo* are of the close-scaled kind, not particularly large and downy coated like *Early York*, indeed they are closely knit like *Royal George* and *Elrue Nectarine*, the first of these being a late forming and good bud retainer, while the latter is an early bud former and a great bud shedder. The form of the bud, therefore, makes little difference as to the bud-casting or bud retention, but the time makes all the diversity, for when a tree is pent on extreme fertility it usually over-shoots the mark, and is capable of bearing nothing. This is seen every year in many other fruits besides Peaches and Nectarines, there often being a profusion of blossom, but little or no fruit. Peaches and Nectarines improve on this, and do not burden themselves with abortions in buds. There is, however, usually some fruit where there is a considerable amount of bud-casting; and where is it? Where these buds are retained. Of course, and where is that? On the stoutest, and to all intents and purposes best part of the growth. The leaves are largest there, and the buds are boldest because they get the most nourishment, but it all counts for nothing, for it is at the base of the shoot, where the leaves are smallest, and at the extremity, where the growth is latest made and most sappy, that the buds are retained, and it is on these parts, if anywhere, that fruit is obtained when bud-casting occurs, or otherwise on spurs, which on the orthodox trellis training system are few and far between.

Thus the crucial point is reached at last, and it becomes a question of management—of system *versus* Nature. Ah, but Peaches and Nectarines have been grown successfully, and still are, on the trellis system. So, also, have they been grown on the natural mode from time immemorial, as they are now grown in orchard houses and some few Peach houses in this country, on the Continent, and in California and elsewhere. What, standards! Exactly, it is Nature—fruit produced on wood of the preceding year and on spurs, a bow with two strings. If fruit fails through bud-casting on the stout young wood there is sure to be some of it on the spurs, as the buds there are not surfeited with nutrition up to the fruit nearing ripening, and then have it very much diminished so as to be unable to form the essential parts,

To clench this argument, the following description of success in growing *Alexander Peach* where there had been failure by simply adopting a different course of training may be interesting. It was not carried out by a novice, but by a thoroughly practical gardener, and proved satisfactory. He says: "Having a tree of *Alexander Peach* in our earliest Peach house, which when first planted, after becoming established, gave nice fruit for a year or two during April, quite three weeks before *Hale's Early* and six weeks before *Royal George* was ripe, being much esteemed at table. I was much chagrined at finding that it did nothing but cast its buds all along the young wood of the preceding year (fig. 57, A, at *a*) and produced but little fruit, and that at the extremity of the growth (*b*), there not being a quarter of a crop. Noticing that some trees in pots generally gave fruit on the spurs when there was not any on the young shoots of last year, I resolved to allow the orthodox trained tree more freedom, or rather, to make more shoots, cutting out some branches to make room for the increased



FIG. 57.—ALEXANDER PEACH, BEARING (FEBRUARY 8TH).

A, Extension and side growths; *a*, Young wood of the preceding year; *b*, Extremity of last year's wood; B, Spur; C, Stubby shoot.

growths, and, as you will see, I got a number of spurs through not disbudding, also a number of shoots, both of which have retained the buds and have set the fruit, there being little difference between the spur (B) and the shoot (C) in this matter."

Upon the premises foreshadowed and guided by this instance of confirmation, which is that every grower of Peach and Nectarine trees in pots and on the standard or natural system, I have come to the conclusion, rightly or wrongly, that bud-casting is solely due to fitness or otherwise of the subject to the conditions imposed, and so eager thereunder to maintain a place in the struggle for existence by an effort at perpetuation as to frustrate the effect of the desired aim, which the cultivator accelerates by confining the subject to hard and fast lines. It must be understood, however, that there is a distinction to be made between bud-casting through defective bud formation, and bud-dropping through deficiency of water and other cultural causes. In the latter case the buds, if cut open, will be perfect in every essential particular, but, of course, dried; while in the other they are not and never were there, or if they were they have been completely eaten up of something.

—G. ABBEY.



HEREFORD AND WEST OF ENGLAND ROSE SOCIETY.

It has been decided to hold the annual show in connection with the above Society at Hereford, on June 25th.

GARDEN ROSES.

I KNOW not why it is so, but I do not usually entertain a very exalted opinion of anyone who invariably agrees with me. It may spring from a natural tendency toward self-depreciation or from an inborn love of opposition. Nevertheless, like the Rev. David R. Williamson (page 305), I rejoice that we can air our little differences of opinion in regard to the relative value of various Roses without the introduction of bitterness to warp our judgment and turn to gall the pleasures of writing or thinking of the charms of our floral queen.

Tastes and fancies no doubt differ greatly in these matters, but fortunately the time has come when Roses of all descriptions are cherished. We have moved out of the old groove of admiring only those which approach a certain standard in regard to form, though of course some will ever lean more than others in the latter direction. But in estimating the value of various varieties there is, I think, one point not sufficiently taken into consideration—viz., the influence different soils, situations, and methods of culture have upon the character of Roses. Many varieties which under ordinary culture seem somewhat commonplace will, when given a little extra attention, or when planted in soil especially suitable, develop a stateliness not usually attributed to them. This, I think, is exactly the case with "the Red Gloire."

In regard to *Perle des Jardins* and *Maréchal Niel*, I notice Mr. Williamson, with the natural shrewdness of an "old hand," continues to judge them principally from an exhibitor's point of view, so as to be able to bring to his support the weight of the opinion of "all the great rosarians." Now this I maintain to be somewhat foreign to the matter at issue. The question is whether or not climbing *Perle des Jardins* will not supersede *Maréchal Niel* as a garden Rose. In these utilitarian days I think it will. Certainly I prefer to grow varieties "which shine in full glory annually," rather than those which rise to "imperial majesty" once in several years.

Fortunately the time is close at hand when we shall be able to admire our pets and compare their charms by the aid of living specimens, instead of having to depend on memories of their departed glories. In the meantime let each work, watch, and use his utmost skill to secure as far as human endeavours can, a rich harvest of Roses.—H. D.

ROSARIAN RECORDS.

SUCH is the appropriate title of the Rev. Alan Cheales' published lecture on Roses (incidentally mentioned last week), which delighted the modern "Reddingas." It abounds in poetry, as might be expected, taken from the records of many centuries; but in making a few citations from this entertaining *brochure*, as indicating its nature, we will follow the author and pass to—

THE ROSE OF PROGRESS.

I pass from the Rose of Poetry to the Rose of Progress. In order to proceed in a perfectly scientific manner, I suppose I must now state that the subject of my paper is of "Order Rosaceæ; stem generally prickly; leaves alternate, stipulate; flowers terminate, often corymbate; stamens numerous; styles exserted; calyx five lobes, the lobes more or less pinnated." A little of which information, I think you will agree with me, goes a long way. Perhaps the historical may be preferable to the botanical in a treatment of this subject?

To begin then, don't be alarmed! with England after the Deluge. Our predecessors here, whoever they were, and wherever they came from, would have, I suppose, their three kinds of wild Roses just as we have; only they would not call one *Eglantine*, as Sir Walter does in his pleasing plea for simplicity—

"Cherish the Tulip, prune the Vine;
But freely let the Woodbine climb;
And leave untriumphed the *Eglantine*!"—*Marmion*.

There would be then in the hedgerows, if they had any hedgerows, our two sorts of Dog Briar; and also the Sweet Briar on the chalk hills; further north there would be also the respected progenitor of our present Scotch Roses; just three or four kinds altogether.

What a contrast to the present day! Now a Rose grower near Vienna is said to have in his garden no less than 4200 different kinds. According to his estimate the number of Tea Roses alone is nearly 1400, whilst he puts the whole population of the Rose world at no less than 6400! A vast deal of this must be utter rubbish; but there are now many good forgotten Roses crowded out in the keen competition for place, and the cream of the whole very certainly is in England! But this is to anticipate. Roses would not be much grown then in Reading. Indeed Reading had not grown itself. The tribe hereabouts, which preceded our predecessors, the Reddingas, was probably too deeply engaged in the struggle for existence to be able to give much attention to its adornments.

THE ROMANS.

When the Romans came, however—in Romano British Calleva, at Silchester over there, with all their extensive hypocausts—it is quite possible that the Rose culture, of such as they had, was considerable. We know that forced Roses were then abundant at Rome. Indeed, it was the Roman flower before we annexed it as the English. From birth to death they were always employing it. Nay, one of their writers goes beyond this—

"Manibus est imis rosa grata, et grata sepulchris;
Et rosa flos florum."

"The flower of flowers the Rose, I ween,
And not alone at banquets seen;
The Rose attends beyond the grave,
The shades their shadowy Roses have."

OLD-FASHIONED ROSES.

But coming back to earth again, the earliest cultivated Rose which we hear of is the single or semi-double red, said to have been brought from Syria into Europe by the Phœnicians. They are reported to have taken it to the South of France. There it became the Provence Rose. About 1277 it came over to England. A son of Edward I., not very civilly called Edmund Crouchback, who had been stationed with troops at Provins, which he then held in right of his wife, is said on his return to have brought this Rose back with him, and to have adopted it as his badge. Thus it became the Rose of Lancaster, and later on again the red Rose of England. Another very old Rose—the dear old Cabbage of our elderly youth—the French Centifolia—is also an introduction from Syria; indeed, Syria seems one very especial ancestral home of the Rose. I remember once, when encamped on Mt. Lebanon, having a grand bunch of Roses of this character presented to me by the parish priest there. The Crested Moss is a variety, or "sport" from this. It was found one day growing in a crevice of a wall at Friburg. The white Cabbage, on the other hand, is altogether an English Rose. It dates from 1777, when Mr. Grimwood of the Kensington Nurseries, found it growing in the garden of a baker in a village in Suffolk. He asked for a branch and obtained the whole tree. In return he gave a silver cup; I suppose the first a Rose ever gained, and, no doubt, by its sale made enough to buy a cupboard full. It was a Rose very long and very highly esteemed.

The "Old Moss" is also a sport from the Cabbage. This came over from Holland. It dates back to 1596. The Austrian Copper Briars are stated in the N.R.S. catalogue to have been introduced here by Mr. John Gerarde also about this time. Besides these our ancestors had also the York and the Lancaster, already spoken of (this would be introduced about 1486); also various Gallicas and Damask Roses, which cannot be exactly dated. The Macartney Rose was brought from China by our Ambassador, Lord Macartney, in 1795. Then came also the two Chinas, those invaluable Roses, to whose happy habit of continuous flowering we owe our whole race of what is called, perhaps rather confidently, "Perpetuals."

IMPORTATIONS.

There are two special varieties of China Roses, the Old Blush, dating from 1795, probably also introduced by Lord Macartney; and the Old Crimson, which just oversteps the century, arriving here in 1812. The Maiden's Blush, still the delight of cottage gardens, dates from 1797; whilst in 1802, *R. rugosa* arrived from Japan. It is a very distinct species, having either white or purple single blossoms, handsome foliage, and hips very large and highly coloured. Mr. George Paul enumerates ten varieties of this in his last catalogue.

A fine hedge of this, some 40 yards long, may be seen at the Messrs. Suttons' Portland Road Nurseries. This Rose is being experimentalised on by that prince of hybridisers, Mr. Martin, and we may expect to hear before long of some interesting new variety.

The Banksian Roses, which take their name from Sir Joseph Banks who introduced them, are again very distinct. They are natives of Tartary, brought here in 1807. They are our earliest Roses, coming into flower often in May, when grown on a warm wall in Southern England. They are great climbers and profuse bearers, although rather delicate. There are three kinds, the white cluster, which is very fragrant; the yellow cluster, which is very beautiful; and the large white, which is neither one nor the other.

In 1822 came the Bourbons, imported into Europe from the French island of that name. A Mons. Noisette introduced them, giving his name subsequently to a large and important section. *Souvenir de Malmaison*, a reminder of the Empress Josephine's famous Rose garden, is perhaps the best of the Bourbon class; Mrs. Paul is a very good modern introduction.

NOISETTES.

Noisettes are cluster Roses, some very hardy, as that best of climbers, *Aimée Vibert*, some as delicate as Teas. *Maréchal Niel* is the king and prince of these, as indeed of all the yellow Roses; glorious and profuse beyond telling under glass, in the open air less prolific, but of a deeper colour; well worth growing under any circumstances and in any quantity; under high cultivation he will show his Noisette blood, producing side budlets, which he is mostly without. Such a truss recalls Lord Byron's description—

"A lady, with her daughters or her nieces,
Is like a guinea with seven shilling pieces."

THE HYBRIDS.

And now we near the era of rapid expansion. I have named this section the Rose of Progress, and indeed the Rose progress made in the last fifty years is something wholly marvellous. Many flowers during that time have been educated up into excellence, but not one can show anything like such a record: the poet Cowper's high estimate is truer than ever—

"Flowers, by that name, promiscuously we call;
But one, the Rose, the regent of them all."—*Retirement.*

With some of our high-class Hybrid Perpetuals it is almost impossible, however, to trace the descent. They are not like that famous Welshman, said to have swum out to the Ark to Noah, saying he "did not care about himself if the patriarch would only preserve for him his pedigree." The parentage of many of our best H.P.'s is unknown. It is different with the Teas. The *Rosa Indica odorata* is the undoubted originator of most of these. It was introduced from China—the pink in 1811, and the yellow, that most valuable of all, in 1824.

NOMENCLATURE.

Perhaps this is the place to say something about names. Now many of us have groaned for years under those dreadful French inflictions! What a comfort Lord Penzance's simple series of Scott's heroines is after the course we have been undergoing of four and five name Madames, and Souvenirs, and Merveilles! There is one excellent Rose, "*Susanne Marie Rodocanachi*," which I have always been afraid to buy, because of the impossibility of getting hold of her name. And then the difficulty of recognising these foreigners when they are naturalised! It is the puzzle of the ships and our sailors over again. Then the Bellerophon became the Billy Ruffian; the Henri Quatre the Angry Cat; the Nautilus the Naughty Lass; and the Hironnelle the Iron Devil: but even worse things are continually occurring to our Rose labels!

It is possible to guess who is meant by the Gent of Battles, and General Jack-me-not can also be conjectured; but Senna Tea Vaise is trying, as also Sulphur Terry; Glory to Thee John is obvious, and Reynard's Hole is not difficult to dig out; but I was long in tracing out how Niphetos had become transformed into St. Peter. The key to it all is that it is an invariable resolve with the British public that if they must accept a new word it shall have an old meaning, or at least twist into some kind of meaning—hence the groom's translating the new mare "*Desdemona*" into Thursday Morning; and also the fate of that other famous horse, who, in the language of the ring, was transposed from the "*Oneida Chief*" into the "*One-eyed Thief*!"—we must take refuge with Romeo in "*What's in a name!*"

The manual is published by Miss Langley, London Street, Reading, and certainly we consider that these historical, poetical, and cultural records are cheap at the price of 1s., with, of course, a penny for postage.

BIRMINGHAM GARDENERS' ASSOCIATION.

At the usual fortnightly meeting on the 30th ult., Mr. W. B. Latham in the chair, a concise but pertinent discussion was opened by Mr. Walter Jones, gardener to T. Gladstone, Esq., Edgbaston, on the cultivation of the Cineraria. Mr. Jones, in the course of his remarks, drew attention to the system adopted more generally thirty or forty years ago—that of propagation of the Cineraria by division, than at the present time, unless to perpetuate some super-excellent variety. Mention was made of "pinching back" to induce a more bushy habit in the plant, and with respect to the quality of the flowers he opined that though size of flowers was increased at the present day, there was no material advance on the substance, form, and colouring. A lively and instructive discussion was taken part in by several members.

Mr. Latham brought from the Botanical Gardens, Edgbaston, cut sprays of the pretty little Cineraria cruenta, a native of Mexico, and which is very popular there. Its delicate mauve petals, bright purple disc, and rich green perianth commend it to the attention of the ladies. From the same source were shown flowers of the beautiful Rhododendron Dalhousiae, the large and deep bell-shaped cream coloured flowers of which afford a striking contrast to its straggling habit of growth. Messrs. Pope & Sons exhibited a very fine umbel of *Imantophyllum Alice Cressen*, also a plant in flower of the Mexican Butterwort, *Pinguicula caudata*. There is a charming grace about its deep carmine coloured blossoms and bright green succulent foliage.

Après of Mr. John Pope's progenitors in connection with the Tulip mania which existed upwards of sixty years ago, Mr. Wm. Gardiner remarked, as a matter of local interest, that the late Mr. John Claudius Loudon, who designed the Botanical Gardens at Edgbaston upwards of sixty years ago, related the fact that Mr. Luke Pope of the then Handsworth Nurseries was long famous for his Tulips, and he declared on his death-bed that he had spent upwards of £3000 on them. Many of the finest sorts were beautifully drawn and painted by Mr. Pope for the inspection of purchasers. Mr. Pope had travelled through the greater part of the United States of America, and introduced a number of American plants, among which was *Rosa palustris*, the flowers of which are double, and the leaves scented like those of the Sweet Briar. All the wild Roses in America, Mr. Pope says, have scented leaves.

At the same meeting there was a competition for the prizes offered by the Committee for single specimens of Cinerarias, the prizes falling respectively to Messrs. Musten, Alfred Brazier, and Oliver Brasier,

for very good examples, and cut flowers of the same were well shown by Messrs. C. R. Bick and Robert Sydenham.

Additions were also made to the Association's valuable library by two copies of Burberry's second edition of "*Orchids for Amateurs*," given by Mr. John Pope, and a well preserved copy of a "*Monograph of Stapelias*," given by Mr. W. Gardiner, compiled by the South African botanical collector of Kew Gardens in 1796, Mr. F. Masson, and dedicated to the King. It is printed in Latin, and beautifully illustrated with forty-one species. Mr. Latham, who remarked that the work was very rare, said there was a copy of it in the Library at the Botanical Gardens, Edgbaston.—G.

HIPPEASTRUMS AT CHELSEA.

Of late years the annual exhibition of these flowers at the Royal Exotic Nurseries of Messrs. J. Veitch & Sons has come to be regarded by many hundreds of people as a treat. Those persons who have not been regular frequenters of these shows might think that there would be a wearying sameness of variety and colour in each successive year; such, however, is by no means the case. True, the same form, or practically the same, is retained, and probably always will be, but extreme diversity is shown in the other two desirable attributes mentioned above. Not that a blue or a yellow Hippeastrum or Amaryllis have as yet been secured, any more than has a blue Chrysanthemum, but in the many shades of red the variations are becoming more numerous and more plainly apparent year by year.

Are blue and yellow Amaryllis an impossibility? Ask Mr. John Heal, who so admirably grows the Chelsea collection. In all probability he knows as much about these plants as the majority of people, and it is just feasible that he may have dreamed that his labours of years had been crowned with unprecedented success, and the longed for goal had been won. Visitors to Chelsea a decade ago remember well the brilliant show, that even in those days was made by the Amaryllis, as they are usually called, and with them there was the same grower as now. As the years have rolled on he has experimented in all directions, and the results cannot be other than gratifying. Time has brought changes in his cherished flowers, but has passed lightly over the cultivator, the hybridiser, the experimenter's head, so much so indeed that he looks fit and well for a long time yet, and all who know him personally or by repute will hope that he may long continue his good work for the firm with whom he has been for such a large number of years. Precocious as some of us are in jumping at conclusions it is scarcely likely that anyone would care to prophesy as to what will have been attained to amongst Amaryllis in another ten years. Degeneration may have set in, advancement may have been of abnormal rapidity. Who knows? None, but someone will see.

Let us, however, pass on to the flowers of the present day, and see which are the best, if such a selection can be made from a collection in which all are good. Before proceeding to these details just a word as to the general effect. On entering the house, which is, as almost everyone knows, a lengthy span-roofed structure, with a broad central bed and narrower side ones, the intense colouration produces rather a dazzling effect, which quickly passes and leaves one at liberty to see and to admire. But our guide was not contented with the view at command from the normal level, so we had perforce to mount that handiest of all platforms to the gardener—a large inverted flower pot. This exalted position revealed many previously unsuspected beauties, extended the view from one end of the house to the other, and showed the plants to the utmost advantage. Nothing could be seen but a broad sea of blooms, with here and there a fine healthy leaf rising to perform its share in the effect, and preclude the possibility of monotony. At one point a massive crimson flower would be conspicuous, while within the vision might also be seen a white tinged with rose, a bright red—but we are anticipating somewhat, so we will return to the varieties.

Previous to commencing a selection mention may be made of the points that were kept in view, as being particularly desirable in the conformation of a good flower. These were briefly richness or distinctiveness of colouration, extending well into the centre of the flower; form and size standing in importance, practically in the order in which they are named. As Cavalier is of a fine crimson hue, with scarcely any "eye," has segments of great substance that overlap in capital style; and is of imposing size, further justification will not be needed for according to it the premier place in these notes, a position be it understood that must not be taken as inferring that it is absolutely the best in the whole collection, for there are several which equal it, and some that other tastes would doubtless nominate as superior. With this little explanation we will turn to a variety of chaste beauty called Euryades; on an almost pure white ground there are bright scarlet markings, extending over a great portion of the bloom; the contour leaves little if anything to be desired.

Intensity of colour, combined with pleasing form, is the chief characteristic of Clotaire, a scarlet self of great merit that finds a host of admirers amongst the visitors. Quite equal from the point of view of popularity is Decia. So far as shape is concerned, these two may safely be placed on a par, but the colours are totally distinct, for this one is white faintly tinged with green and delicately flushed with rose. This pair may safely be classed amongst the best of the collection, while if it is wished to form a trio the deep crimson scarlet of Beaulieu might well find a place. The substance of the flowers of each of these is remarkable, though this is one of the features of the whole of the varieties in flower.

Passing along, attention is arrested by a very distinct bloom, and the name is promptly sought. The label is soon found, saying Florence Wright. Size here is not a feature, while the shape leaves the least bit of room for improvement, so this relies on its colour for securing admiration. The shading is very peculiar, especially for an *Amaryllis*, and is not very easy of description, but clear salmon rose flamed with white will convey some idea, though perhaps not an absolutely correct one. It is quite worthy of more than a mere passing glance, as also is the stately crimson *Eurasian*. Other varieties that would probably appeal to the majority of people by reason of one or more good points are *Mercia*, white and rose; *Ena*, clear orange red with a green centre; *Agnes*, white, flushed and shaded salmon rose; *Adeline*, rich crimson peculiarly shaded purplish rose and white; and *Cathal*, rich rose and white. More than these could easily be mentioned did space permit, but it would be much better for readers to seize an early opportunity of visiting Chelsea to see for themselves.

If there is one thing more than another that would enhance the popularity of *Amaryllis* now that they have reached such magnificence it is scent. Perhaps some day a race of scented varieties will be with us, when they will quickly become favourites with a somewhat considerable number of people who are at present not particularly taken with them solely on account of the lack of fragrance.—SCRUTATOR.

OLYMPIA.—APRIL 8TH AND 9TH.

THE first flower show that has been held this season at Olympia was opened on Wednesday, in the Palmarium division of the Winter Garden, when a magnificent display was brought together, thanks, doubtless, to the efforts of Mr. Barron, the Superintendent of the show, and to Mr. G. Bick, the Garden Superintendent at Olympia. The schedule differed from the majority of those arranged for flower shows, inasmuch as no specified prizes were offered, medals being equivalent to handsome money prizes. Space precludes our giving a detailed report, or such an extended one as the show deserves, as space in our columns is limited, and the time at disposal scarce. The arrangement of the exhibits was admirable, and produced a bright effect.

Messrs. Paul & Son, Cheshunt, were the only exhibitors of a table of *Amaryllis*, and received a silver medal. The plants were well grown and flowered, but not sufficiently diversified in colour. The St. George's Nursery Co., Hanwell, arranged a table of *Cyclamens*, comprising magnificent plants in various colours, taking a silver-gilt medal.

A silver-gilt medal was awarded to Mr. G. Mount, Canterbury, for a collection of *Roses*, in which most of the leading varieties at present in flower were noticed. Two splendid tables of *Daffodils* were staged by Messrs. Barr & Son, Covent Garden, and T. S. Ware of Tottenham, to each of which large silver medals were given. One of the most conspicuous exhibits was the group of *Caladiums* from Messrs. J. Laing & Sons, Forest Hill. This comprised perfectly grown plants in great variety, in fact all the leading sorts were seen, which well deserved the silver-gilt medal. Mr. Wm. Howe, gardener to A. Tate, Esq., Streatham Common, exhibited a charming group of *Ferns*, and received a silver-gilt medal.

There were three groups of miscellaneous plants shown, each staged in circular form. Messrs. J. Laing & Sons were represented by a circular arrangement, in which each plant was made to show to the best advantage. There were finely grown *Palms*, *Crimson Rambler Roses*, *Orchids*, *Azaleas*, *Calla æthiopica*, and the rarer *C. Elliottiana*, *Caladiums*, *Ferns*, and other plants (silver-gilt medal). Messrs. J. Peed & Son, Norwood, had a circular group also, comprised of *Palms*, *Azaleas*, *Spiræas*, *Clivias*, and others; but the arrangement was rather too heavy to be effective (silver-gilt medal). Messrs. Cutbush & Son, Highgate, were the other exhibitors in this class. The group included *Palms*, *Azaleas*, *Magnolias*, and other plants (large silver medal).

A large silver medal was adjudged to Mr. T. S. Ware for a table of plants, mostly of a hardy nature. *Daffodils*, *Muscari*, *Primulas*, and *Primroses* were particularly noticeable. *Roses* in pots were grandly staged by Messrs. Paul & Son, Cheshunt, and received a large silver medal. Fruit was not largely shown. Messrs. J. Cheal & Sons, Crawley, staged a few dishes of *Apples* in fine condition (silver medal). Table decorations were charmingly shown by four competitors, to each of whom a medal was awarded, the Addison Road Station florist (Isaacson) having an elegant bouquet of *Erica*, *Daffodils*, and *Liliums*.

Cinerarias from Messrs. J. Carter & Co., High Holborn, were very beautiful, and denoted a splendid strain of seeds. The plants were of very sturdy habit, with large healthy leafage, and clothed with various coloured flowers. The silver-gilt medal was thoroughly deserved. For foliage plants, such as *Crotons*, *Dracænas*, *Caladiums*, and *Palms*, Mr. W. Howe received a silver-gilt medal. This grower was apparently the only private exhibitor in the show. The *Clivias* from Messrs. J. Laing & Sons were superb medium-sized plants, carrying large trusses of blooms and leathery leafage (silver-gilt medal). The same firm also arranged two groups of foliage and flowering plants of a hardy nature, in addition to one of mixed flowering and foliage greenhouse. Quality and quantity were apparent in all the Forest Hill exhibits.

Horticulturally the exhibition was a decided success, and if they are continued on practically the same lines the number of exhibitors will no doubt be materially increased. It is suggested that monthly shows be held, the next one to be early in May; but full announcements will be made in our columns as soon as arrangements are completed. We hope the public will appreciate the efforts of the promoters in bringing together such a charming display.



HARDY FRUIT GARDEN.

Outdoor Figs.—*Planting Young Trees*—Warm sheltered positions, with a south or south-westerly aspect, should be chosen for *Fig* trees. They require plenty of sun and air to ripen the growths well. A chalky subsoil suits them admirably, with a fertile, friable loam resting above it, which will also naturally partake of the character of the subsoil and give a rooting medium of a calcareous nature. The *Fig* will also grow in other soils, but they must be well drained, not too rich in organic matter, and be firm. The same applies to calcareous soils. Soils not containing lime at all must be supplied either with lime rubbish or chalk before *Figs* are planted. Manure must not be added, as it causes growth too vigorous in character, long jointed, and succulent. The more compact, short jointed, and woody the shoots become, the more fruitful will the trees be. A border 6 feet in width is ample, and if the roots are compelled to ramify in such a border without the means of going beyond it, the trees are more likely to be, and continue, fruitful.

Pruning after Planting.—The single stem of a maiden tree should be shortened to 15 inches, the object being to obtain shoots for forming the foundation of the tree. A young tree having several branches will also need shortening, each being cut back well so as to obtain two vigorous breaks from each.

Training Young Trees.—When the shortened stem of a maiden tree breaks into growth, select a shoot on each side, training one to the right and the other to the left. Keep them equal in vigour if possible. This may be done by depressing the stronger, and elevating the weaker shoots. From each of these train two others, leaving plenty of space between so as to allow of the successional shoots being trained in at full length. The best system with these is that which affords fruit-bearing shoots, alternating with young wood for the next season's bearing. The system may be originated by cutting back alternate shoots to one bud, training in the resulting growths at full length, and cutting out the fruiting shoots to the lowest bud the following winter. Ample space must be allowed between the shoots so as to admit light and air freely, and afford full exposure to the leaves.

Pruning Old Trees.—Cut out old, useless, and crowded wood, reserving a fair proportion of the best placed and best ripened growths. Last season's fruiting wood cut back to one bud. The shoots resulting from similar treatment last year will produce fruit, and should be trained in thinly. Where nothing but short-jointed wood is present and there is no overcrowding pruning may be practically dispensed with. A little thinning out may be done, but all the shoots reserved must be left unshortened as the fruit is produced near the apex.

Pruning Recently Planted Fruit Trees.—The youngest of these, and such as have received no previous shortening back to form a framework of branches, ought to be pruned more closely than older trees with the requisite number of branches formed. It may suffice for the latter if the youngest parts of the leading shoots are shortened to bold wood buds near the base of the wood produced last season. Pruning should be mainly regulated by the condition and quantity of the roots when planting. If roots are few and much mutilated they of course will require cutting back to healthy parts, and the branches must be treated accordingly. When fairly large trees are planted endeavour to secure as many healthy roots as possible, so as to obviate the necessity of severely cutting back branches over a year old, which may be furnished with fruit spurs. Maiden trees having one strong stem are with advantage shortened from 15 to 18 inches. Those a little older and having several branches of stout young wood, shorten more or less closely where a further number is required. A reduction of two-thirds is sufficient, when it is desirable only to continue extension, not to increase the number of branches.

Trees not fully established in the soil frequently produce flower buds for several inches at the extremities of the young growths. These parts must be pruned away down to the boldest wood bud, pointing in the direction the new shoot is desired to extend.

Protecting Fruit Trees.—Peaches and Nectarines will still require protecting in cold and stormy weather or on frosty nights. When the foliage expands sufficiently the young fruits will receive benefit from it, but until then continue to afford necessary protection. Also choice espalier and bush *Apples* and *Pears* ought to have some temporary arrangement of poles and tiffany or netting if the weather prove uncongenial at the period when the trees are in flower. Frosts in dry weather do not injure the flowers to the same extent as when occurring in wet and rough weather. Supports for protecting material may be easily erected over bush and espalier trees in the open by an arrangement of long light poles meeting over the tops of the trees and fastened together.

Similar poles may be arranged in front of wall trees that require covering, the ends being firmly fixed in the soil. The framework need not be more bulky than is necessary to prevent the material laying on the trees. Tiffany, scrim canvas, hexagon netting, or double fish nets may be employed, securing them so that strong winds do not displace them.

FRUIT FORCING.

Pines.—*Early Started Fruiting Plants.*—Plants started into growth early in the year are near the flowering stage, and will be benefited by an occasional sprinkling at the time the house is closed, but when the flowers open this must not be practised. The foliage being as yet tender, it will be advisable to afford a slight shading for an hour or two in the hottest part of the day for a few weeks. When the flowering is over the fruit will advance rapidly if the roots are in good condition, and plentiful supplies of liquid manure will be requisite. Attend to ventilating early in the morning, commencing when the temperature is at 80°, and closing at 85° with sun heat. Keep the atmosphere moist when the house is closed, the bottom heat steady at 80° to 90°, the night temperature 70° and 75° by day artificially. As soon as the suckers appear remove all except one to each plant.

Young plants in course of preparation for fruiting often become soft, drawn, and weakly in growth through a close moist atmosphere and high temperature. This should be carefully avoided by dispensing with fire heat as much as possible. Maintain the temperature at 60° to 65° at night, and 70° to 75° by day artificially. This is sufficient to keep the plants in steady progress. Commence ventilating at 75°, gradually increasing it with the temperature to 85°, keeping it through the day at 85°, 90°, or 95° from sun heat, with abundance of air, closing at 85°, but not so as to greatly raise the temperature. Sprinkle available surfaces at closing time, and syringe the plants lightly about twice a week.

Plants swelling their fruit are assisted by judicious applications of liquid manure, to be withheld when ripening commences. Stake the fruit to keep it in an erect position. When the suckers of fruiting plants become large enough screw out the hearts of those not required for stock; one, or two at most, should be retained on a plant. The temperature ought to range in fruiting houses from 70° to 75° at night, and 80° to 95° by day. As the fruit ripens the plants may be removed to a cooler house, and the fruit will then keep sound for a lengthened period, longer, indeed, at this time of year than any other.

Vines.—*Early Forced Vines.*—Early Grapes are readily had where there are proper structures for fruiting the canes, and these are stout and thoroughly ripened. Better results, however, are had by planting the Vines out in beds, with hot-water pipes in a chamber, as in growing Cucumbers or Melons. If the beds are 3 or 4 feet wide they answer admirably when drained, and about 15 inches depth of soil provided, cut-back Vines being the best for planting. Train the canes near the glass, just keeping their principal leaves clear of it, then the wood will be short-jointed and thoroughly solidified. Pinch the laterals at the first joint, and to one of subsequent growth. The principal leaves must on no account be prejudiced by laterals. Stop the canes at 6 to 8 feet of growth, and if disposed to push laterals strongly at the joints immediately below the stopping pinch them closely, allowing the laterals lower down to extend a little, so as to appropriate the surplus sap, and cause that part of the cane to thicken equally with the upper portion.

Grapes Ripening.—The berries swell considerably after colouring commences, and to secure the full swelling of the fruit a genial condition of the atmosphere must be maintained. Afford a thorough supply of water or liquid manure to the roots, as early Grapes severely tax the energies of the Vines, and through aiming high, perfection in colour is not always attained. A liberal and constant supply of warm air greatly favours the ripening process, especially if combined with a comparatively low night temperature, say 60° to 65°, and 70° to 75° by day from fire heat and 80° to 85° from solar influences. Red spider is almost inseparable from forced Vines. Sponging the leaves of the Vines with a solution of soft soap, not more than 2 ozs. to a gallon of water, is a safe but tedious method of freeing Vine foliage from red spider. In supplying liquid manure at the commencement of colouring afford it early in the day, so that surplus moisture may pass off before closing time. When the Grapes are fully ripe only afford sufficient heat to prevent the temperature falling below 60°, maintaining a moderate amount of moisture for the benefit of the foliage. If the weather prove bright a light shading, as a double thickness of herring or single pilchard netting over the roof lights, will assist Black Hamburgs in retaining colour.

Succession Houses.—Early and close attention should be given to thinning the bunches and berries, as each surplus bunch or berry takes from the ultimate size and finish of those left for the crop. Likewise in disbudding and stopping, every needless growth is only so much wasted energy. A margin must be left for extension at stopping, so as to prevent ultimate crowding, and this will insure steady supplies of nourishment, which means root action proportionate to the foliage to digest it. Afford proper supplies of water, and feed with liquid manure or top-dressings washed into the soil.

Vines Swelling their Crops.—A moist atmosphere is essential, damping the house two or three times a day and occasionally with liquid manure, as guano, 1 lb. to 16 gallons of water, or neat stable or cow-house drainings diluted with six times the bulk of water. These evolve ammonia vapour steadily, which in small amounts is certainly beneficial to the foliage and inimical to red spider. Admit a little air early, increasing it with the advancing temperature, and maintain it at 80° to 85° through the day from sun heat; close early so as to raise to 90°, and admit a little air before nightfall. A temperature of 60° to 65° at night and 70° to 75° by day is sufficient from fire heat, never losing an opportunity of dispensing with it in favour of that of the sun, as there is both economy and health in it.

Late Houses.—As soon as the best shows of fruit can be distinguished commence disbudding, and when the shoots are advanced one or two joints beyond the bunch take off their joints where the space is limited.

Pinch the laterals to one leaf above the bunch, and remove those below, except from the two lowest leaves, which pinch at the first joint, also the sub-laterals to one leaf. When the bearing shoots are a good distance apart all the laterals may be left, stopping those and sub-laterals below the fruit to one joint as made, but above the bunch they may be allowed to extend two or three joints, or until the space is fairly covered with growth, then keep them well in hand. Close the house early in the afternoon, with plenty of atmospheric moisture, syringing the Vines at closing time, but not after the bunches show.

Young Vines.—Those allowed to break naturally, and assisted with a little fire heat when the buds have grown about half an inch make rapid progress, but they need not have a higher temperature than 50° to 55° at night and 60° to 65° by day after the leaves appear, relying mainly on sun heat, with gentle warmth in the pipes on cold days. Remove all buds except one at each break, retaining the strongest, and leave the shoots about 18 apart on both sides of the cane. Crop permanent Vines lightly, but supernumeraries may carry full crops.

THE FLOWER GARDEN.

Vases.—As a rule these are indifferently filled, and consequently are not nearly so ornamental as they might otherwise be. A large vase with a few small plants stuck in it is far from being attractive, and the least that ought to be done is to fill them early in June with a mass of strong plants. When only a few ordinary bedding plants are placed in each these rarely attain an effective size, whereas a vase ought to be showy from the first day it is filled or put out. Where the vases are not fixtures—and in some instances they are placed under cover every winter—these might well be properly drained, filled with good loamy soil, such as Zonal Pelargoniums delight in, and be planted at once. Newly started vineries, or other warm and fairly light houses, are the best positions for starting the plants into active growth, and all will be ready for hardening and subsequent full exposure to the open air by June. When the vases are fixtures, and also in the case of large specimens, a modification of the foregoing plan might yet be adopted. Zinc tins, or better still, strong galvanised framework, could be made to fit neatly into the vases, and these might then be filled now and dropped into them in due course. The same plan answers well with hanging baskets and window boxes. In filling the baskets or wire framework it is necessary to line them with turves to keep in the soil, and the roots also find their way into these. Iron vases ought always to be lined with turves, as these, whether made solid or with divisions, are certain to get too hot for the roots at times.

Suitable Plants for Vases.—On the whole Zonal Pelargoniums are the most effective, and the vases might well be principally or wholly filled with these. There are gardens, by no means the smallest or worst managed in the country, where a whole series of vases are entirely filled with scarlet Zonals, and a brilliant mass of colour is presented till frosts intervene. If preferred the vases could be arranged in pairs, the centres being filled with one variety of Zonal, and surrounded by an edging of either Ivy-leaf Pelargoniums, Petunias, strong growing or trailing Lobelias, notably *L. gracilis* and *L. littoralis*, some of the more spindly tuberous-rooted Begonias, Verbenas, and Tropæolums. Mixtures may be attempted in very large vases, large plants being massed in the centres of these, but as a rule they are failures. Fuchsias are not suitable for vases, Calceolarias soon fail, Heliotropes become stunted, and Marguerites seldom continue effective throughout the season. Much of the foregoing is also applicable to window boxes.

Terrace Plants.—Large specimen scarlet Zonal Pelargoniums in pots set along broad pathways, and lining the entrance drives, are not so often seen as of old, but they are not quite obsolete. These, Fuchsias, and Heliotropes if well grown, are yet very attractive, and Agapanthus, Funkias, Yuccas, Aloes, hardy Palms, and common hardy Ferns in pots are all more or less effectively employed in decorating sheltered terraces, drives, and approaches. The Pelargoniums, Fuchsias, and Heliotropes ought to be cut back every spring, and when breaking afresh be turned out of their pots, much of the old soil picked away from the roots, then placed in good fresh compost. Unless this is done, and the plants started under glass, they are usually more unsightly than ornamental. The other plants named seldom require repotting, but if much root-bound a small shift may be given now.

PLANT HOUSES.

Shading.—Arrange the blinds of the various houses without delay, as the sun now has considerable power, and proves very trying to newly potted plants, especially after dull weather. At the same time be careful not to give too much shade at this early period of the season, or more harm than good will result. Screen the plants for a few hours only each day with open material; shading of a permanent nature cannot be too strongly condemned. Crotons and other foliage plants of a similar nature must not be shaded if they are to develop their beautiful foliage to perfection. It is difficult in mixed houses to give plants the exact treatment they require, and it cannot be done when large blinds are employed for shading; for this reason two or more blinds on each side of mixed houses of plants are better than one, then the plants can be so arranged that one portion may be shaded and the other not. For example, we devote one house almost exclusively to Crotons and Dracænas. The former occupy the brighter end, and are not shaded, while the latter will be shaded for a few hours daily.

Crotons.—Repot young plants from time to time as they need more root room. Water carefully, and keep the structure in which they are grown close and moist. To grow these plants well they should never

suffer by the want of root room until they have their final potting. At first they will have the appearance of being overpotted; but in a short time this seeming difficulty will be overcome, and the plants will be large for the size of pots in which they are growing. Give to plants that it is necessary to keep in a certain size pot soot water in a clear state every time they need water; a little chemical manure applied to the surface occasionally will also be beneficial. The former in a perfectly clear state may be syringed over the foliage once or twice a week, and will have a stimulating effect on the plants. Where Crotons are needed in a small state, and quantities are damaged for various decorative purposes, insert cuttings frequently. These root quickly in brisk heat during the season of growth. When large heads are taken off cut them where the wood is soft, and then they will root without losing a leaf.

Poinsettias.—If the old stems are cut into lengths of two joints, inserted in sandy soil, and placed in a warm house, they will soon commence growing and form roots. This is probably the easiest way of raising these plants. When cuttings of young shoots are preferred, place the old plants in heat and keep them well syringed until growth commences. When the shoots are 3 inches in length slip them off with a sharp knife and insert them singly in thumb pots, placing a little sand at the base of each cutting. If kept close and shaded from the sun under hand-lights they will soon root.

Euphorbia jacquiniæflora.—Place the old plants in heat to start them into growth. When the young shoots are 3 inches long remove the plants to a cooler place for ten days; the cuttings may then be taken off with a sharp knife just where they issue from the old stem, and every one will root if placed round the sides of small pots and stood under hand-lights. Young plants of last year that have been pruned back may, when they have begun growing, be shaken out and repotted. Start these in an intermediate temperature. Cuttings of *Plumbago rosea* root freely under hand-lights, so also do those of *Thyracanthus rutilans*. These should be placed singly in small pots, and the old plants thrown away. Directly the cuttings are growing remove them to an intermediate temperature, and finally grow them cool throughout the summer.

Gloxinias.—The earliest of these may be placed in 6-inch pots; also pot those singly that are just starting into growth, and introduce others into heat in boxes amongst leaf mould. Prick out seedlings that are large enough to handle, and sow a little more seed where late plants are appreciated.

Gesneras.—Shake the old soil from the earliest flowering of these, and start them into growth singly or two or three together in small pots. They will start quickly in Cucumber and Melon houses, but once the foliage commences to form they must have a position where they will be free from the syringe. Water on the foliage turns it brown and disfigures it.

Tydas.—Madame Heine and other varieties of this section will be lost if dried, as they form no underground stems. They are propagated by cuttings, which root very freely. Cuttings are plentiful now, and when they are inserted the old plants may be thrown out at once. If large plants are needed insert the cuttings singly in small pots and pinch them from time to time. When bushy plants are needed in 5-inch pots insert the cuttings thickly together in pans, and when they have commenced growing strongly re-root the tops and throw the others away. These if pinched once will make capital plants.

Medinilla magnifica.—Place this plant to make its growth where a brisk moist heat can be maintained. Syringe freely, for it is very liable to be attacked by thrips. If a larger pot is needed, shift at once. It does well in any rich compost; for instance, fibry loam, one-seventh of manure, sand, and a little leaf mould. It will grow in peat, and also in equal portions of peat and loam.

Achimenes.—Insert cuttings thickly in pans for making up baskets. Those for decoration in pots may be inserted in 5-inch. They do well in this size, and form handsome plants, either for the conservatory or in rooms. The cuttings root freely if shaded in a warm moist atmosphere.

THE BEE-KEEPER.

SEASONABLE NOTES.

ROBBING is often prevalent at this season, and if steps are not at once taken to stop it much mischief will be done. Bees will start robbing from a variety of causes, such as careless handling of stores, spilling syrup near the hives, and should there be a queenless colony these are usually the first to be attacked. In these matters one cannot be too careful, as by a little negligence the whole apiary may be set in an uproar.

The strong stocks can usually be trusted to take care of themselves, but when the mania has commenced many valuable bees will be lost in protecting their stores. If the robbers once gain an entrance to a weak colony it is surprising how quickly they will clear out every particle of stores from the doomed hive, and the few remaining bees will soon die of starvation unless they are at once taken in hand, and provided with the necessary food and attention until all risks are over.

All hives should have their entrance reduced so that only one bee can pass at a time. The inmates will then have a much better chance of keeping out intruders than if the entrance were left the full width. A little carbolic acid sprinkled on the alighting board, or elsewhere if the robbers are likely to gain an entrance, will soon have the desired effect.

In a bad case of robbing it is advisable to remove the stock some distance from its original stand, and feed with warm syrup at night, covering the whole up warm. This will generally have the desired effect, and after the bees have settled down quietly to their work they may be returned to their original stand without any danger of again being molested. Under careful management such bees will return a handsome surplus of honey should the weather be favourable during the honey flow.

Open air feeding might be practised with advantage at this season (provided there are no other bees kept in the immediate neighbourhood) and is a great saving of trouble. The one point to bear in mind is that the feeders are placed at least 20 yards from the hives, as there will then be no danger of robbing. Thin syrup should be placed in saucers, or any other shallow vessel, in the open air, and only sufficient be given that can be taken by the bees during the day, refilling the following morning or as soon after as necessary. A few shavings or chopped straw should be placed in the syrup to prevent the bees being drowned.—AN ENGLISH BEE-KEEPER.



* * All correspondence should be directed either to "THE EDITOR" or to "THE PUBLISHER." Letters addressed to Dr. Hogg or members of the staff often remain unopened unavoidably. We request that no one will write privately to any of our correspondents, as doing so subjects them to unjustifiable trouble and expense.

Correspondents should not mix up on the same sheet questions relating to Gardening and those on Bee subjects, and should never send more than two or three questions at once. All articles intended for insertion should be written on one side of the paper only. We cannot reply to questions through the post, and we do not undertake to return rejected communications.

Double Primulas (*Young Gardener*).—You will find, on page 329, an article on the cultivation of these plants by an experienced grower, that will be of more assistance to you than could be a brief reply in this column.

Parsnip Wine (*F. J. B.*).—You will find the following a good recipe for making this beverage. Wash the Parsnips quite clean and cut in pieces. To every 4 lbs. of Parsnips take a gallon of water and boil half an hour. Strain, and to each gallon of liquor add 3½ lbs. of sugar and 1 oz. of ginger. Boil again for twenty minutes, put into a tub to cool, and when nearly cold set with a little yeast. Let it stand three days, and then put it in a cask. When fermentation ceases bung down tight, and bottle in six months. A few Lemons will improve it, say one to the gallon, in which case allow 4 lbs. sugar to the gallon.

Auricula Seedling Dying (*J. L.*).—The plant has gone off at the collar, and is the malady generally termed "damping-off." It is usually attributed to an excess of moisture at the surface through water being given immediately after potting, but it frequently arises from other causes, such as the plants being placed lower in the soil and the damp coming into contact with the neck or more succulent part of the plant, and this gives an advantage to parasites. We found the usual white worm (*Euchytræus Buckholzi*) that is commonly associated with such decay in Primulas, which go off at the necks of the plants, this being probably introduced with the potting material. The springtails (*Achorutes purpurascens*, *Lubb.*, one of the finest jumpers in the world, and *Lipura fimetaria*, *Limn.*, not a jumper) are probably only present to feed on the decaying matter. But there are the white threads of the fungus called *Botrytis cinerea*, and this we consider is the cause of the damping off, having found congenial conditions for development. It may have been introduced in the potting material, such as the vegetable matter of turfy loam or that of leaf mould, in which it subsists as a saprophyte, and on opportunity offering takes to an endophytic mode of life, sweeping off whole pots or panfuls of seedlings. It appears to detest lime, hence air-slaked chalk lime, dry and floury, is a good antidote, and this with a comparatively dry condition at the collar of the plant is usually effective in arresting its progress and compassing its destruction, as its food is resolved into inorganic matter, and on that no parasite can subsist.

Daffodils (*C. T.*).—The plants continue satisfactory a much longer time in some soils than in others. When the foliage withers take up the bulbs and thoroughly dry them; then sort them into three sizes, and plant in well-prepared soil. The large bulbs will produce flowers next year, and the smaller gain strength. They may remain out of the ground about two months. It pays some growers of Daffodil flowers for sale to take up, dry, and replant the bulbs every second season.

Gardeners' Spelling (*Clericus*).—The examples of spelling you send are certainly peculiar, but not more so than some which have recently come under our notice. We give a few examples, some of which fairly well denote what was referred to, but others require a moment's consideration. Perhaps some readers may like to determine their interpretation:—Mellar; rooths; galande; enef; heate; sistim; aphart; strenght; yealar; chark hole; ridgid; Premcllas; Lettis.

Wedge Grafting (*Junior*).—This is certainly a good system of grafting, and one with which every young gardener should be acquainted. The accompanying sketch (fig. 58) and references render the process quite clear. L is a triangular scion cut as shown at *n*; the shoulder at

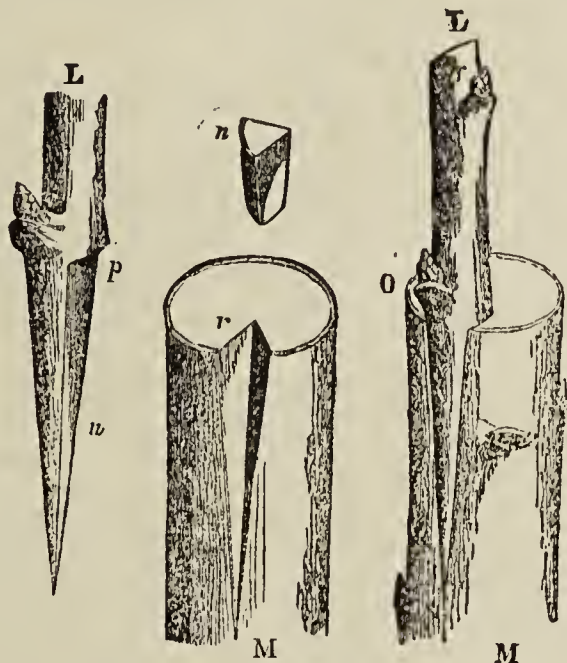


FIG. 58.

p serves as a rest for the scion when placed on the stock; *n* is a section of the scion when cut. Before cutting the stock M place the section on the part where the scion is to be inserted, and trace its outline in pencil at *r*, then cut on the stock a corresponding notch as represented at M to receive the scion; it will then have the appearance as shown in the figure L, O, M, and it only remains to bind the whole with matting, and cover with grafting wax or clay.

Names of Fruits.—*Notice.*—We have pleasure in naming good typical fruits (when the names are discoverable) for the convenience of regular subscribers, who are the growers of such fruit, and not collectors of specimens from non-subscribers. This latter procedure is wholly irregular, and we trust that none of our readers will allow themselves to be made the mediums in infringing our rules. Special attention is directed to the following decision, the object of which is to discourage the growth of inferior and promote the culture of superior varieties. In consequence of the large number of worthless Apples and Pears sent to this office to be named, it has been decided to name only specimens and varieties of approved merit, and to reject the inferior, which are not worth sending or growing. The names and addresses of senders of fruit or flowers to be named must in all cases be enclosed with the specimens, whether letters referring to the fruit are sent by post or not. The names are not necessarily required for publication, initials sufficing for that. Only six specimens can be named at once, and any beyond that number cannot be preserved. They should be sent on the first indication of change towards ripening. Dessert Pears cannot be named in a hard green state. (W. Crowder).—The Apple is no doubt a local seedling, and possesses no commercial value. (R. T. C.).—Uncertain; perhaps rather small and well kept examples of Small's Admirable.

Names of Plants.—We only undertake to name species of plants, not varieties that have originated from seeds and termed florists' flowers. Flowering specimens are necessary of flowering plants, and Fern fronds should bear spores. Specimens should arrive in a fresh state in firm boxes. Slightly damp moss, soft green grass, or leaves form the best packing, dry wool the worst. Not more than six specimens can be named at once, and the numbers should be visible without untying the ligatures, it being often difficult to separate them when the paper is damp. (Henri).—*Odontoglossum prænites*. (B. P. R.).—1, *Skimmia japonica*; 2, *Anemone appennina*; 3, *Veltheimia viridifolia*; 4, *Eupatorium floribundum*; 5, *Eucalyptus hirsuta*. (W. E.).—1, *Epacris bicolor*; 2, *E. grandiflora*; 3, *Erica Cavendishi*. (F. C.).—1, *Dendrobium aureum*; 2, *D. nobile* (a good form); 3, *D. oculatum*; 4, *D. Pierardi*. (Suburbanist).—1, *Daphne Fortunei*; 2, *D. altaica*; 3, *Crinum australe*; 4, *Cotoneaster buxifolia*; 5, *Cotoneaster laxiflora*. (G. C., Bolton).—*Linaria cymbalaria*. (R. B.).—1, The *Rhododendron* is not a species but a variety, and can only be named by comparison by a nurseryman. 2, An *Ulmus*, species undeterminable without flowers.

TRADE CATALOGUES RECEIVED.

The Agricultural and Horticultural Association, Ltd., 3, Agar Street, W.C.—*Popular Annual for Amateurs and Catalogue of Seeds.*
W. Cutbush & Son, Highgate.—*Hardy Plants.*

COVENT GARDEN MARKET.—APRIL 8TH.

TRADE disorganised owing to the holidays.

FRUIT.

	s.	d.	s.	d.		s.	d.	s.	d.		
Apples, per bushel	2	0	to	4	6	Peaches, Cape, per case ..	0	0	to	0	0
„ Nova Scotia, barrel 13	0	20	0			Pears	0	0	0	0	
Grapes, per lb.	1	3	3	6		St. Michael Pines, each ..	2	0	6	0	
Lemons, case	11	0	14	0		Strawberries, per lb. ..	4	0	6	0	
VEGETABLES.											

VEGETABLES.

Asparagus, per 100	..	..	6	0	to	6	6	Mustard and Cress, punnet	0	2	to	0	0	
Beans, per lb.	..	..	0	6	1	3		Onions, bushel	..	..	3	6	4	0
Beet, Red, dozen	..	..	1	0	0	0		Parsley, dozen bunches	..	2	0	3	0	
Carrots, bunch	..	..	0	3	0	4		Parsnips, dozen	..	1	0	0	0	
Cauliflowers, dozen	..	..	2	0	3	0		Potatoes, per cwt.	..	2	0	4	0	
Celery, bundle	..	..	1	0	0	0		Salsafy, bundle	..	1	0	1	6	
Coleworts, dozen bunches	..	..	2	0	4	0		Seakale, per basket	..	0	9	1	3	
Cucumbers, dozen	..	..	2	0	4	0		Scorzonera, bundle	..	1	6	0	0	
Endive, dozen	..	..	1	3	1	6		Shallots, per lb	..	0	3	0	0	
Herbs, bunch	..	..	0	3	0	0		Spinach, pad	..	0	0	4	6	
Leeks, bunch	..	..	0	2	0	0		Sprouts, half siv.	..	1	3	0	0	
Lettuce, dozen	..	..	1	3	0	0		Tomatoes, per lb.	..	0	6	0	0	
Mushrooms, per lb.	..	..	0	6	0	8		Turnips, bunch	..	0	3	0	9	

PLANTS IN POTS.

Arbor Vitæ (golden) dozen	6	0	to	12	0	Ferns (small) per hundred	4	0	to	6	0
Arum Lilies, per dozen ..	8	0		12	0	Ficus elastica, each	1	0		7	0
Aspidistra, dozen	18	0		36	0	Foliage plants, var. each	1	0		5	0
Aspidistra, specimen plant	5	0		10	6	Genista, per dozen	8	0		12	0
Azalea, per dozen	18	0		36	0	Hyacinths, dozen pots ..	8	0		12	6
Cineraria, dozen pots ..	6	0		10	0	Hydrangea, various, dozen	9	0		24	0
Cyclamen, dozen pots ..	8	0		15	0	Lilium Harrissi, per dozen	18	0		30	0
Daffodils, dozen pots..	6	0		9	0	Lycopodiums, dozen	3	0		4	0
Dielytra, per dozen	9	0		12	0	Marguerite Daisy, dozen ..	6	0		10	0
Dracena, various, dozen ..	12	0		30	0	Mignonette, dozen pots ..	8	0		12	0
Dracena viridis, dozen ..	9	0		18	0	Myrtles, dozen	6	0		9	0
Ericas, various, per dozen	9	0		24	0	Palms, in var., each	1	0		15	0
Euonymus, var., dozen ..	6	0		18	0	„ (specimens)	21	0		33	0
Evergreens, in var., dozen	6	0		24	0	Spiræas, doz... ..	6	0		9	0
Ferns in variety, dozen ..	4	0		18	0						

AVERAGE WHOLESALE PRICES.—CUT FLOWERS.—Orchid Blooms in variety.

Anemone (French), dozen bunches	2	0	to	4	0	Narcissi, var., doz. bunches	0	9	to	2	0
Arum Lilies, 12 blooms ..	3	0		6	0	Orchids, various, doz. blms.	1	6		12	0
Asparagus Fern, per bunch	2	0		4	0	Pelargoniums, 12 bunches	6	0		9	0
Azalea, dozen sprays	0	4		0	9	Primroses, dozen bunches	0	6		0	9
Bouvardias, bunch	0	6		1	0	Primula (double), dozen sprays	0	6		1	0
Camellias, dozen blooms ..	0	9		1	6	Roses (indoor), dozen	1	0		2	0
Carnations, 12 blooms ..	1	0		3	0	„ Tea, white, dozen	2	0		4	0
Cyclamen, dozen blooms ..	0	3		0	6	„ Yellow, dozen (Nicks)	3	0		6	0
Daffodils, single, doz. bun.	1	6		6	0	„ Red, dozen blooms ..	3	0		6	0
„ double, doz. bun.	1	6		2	0	„ Safrano (English), dozen.. ..	1	6		3	0
Eucharis, dozen	3	0		4	0	„ Pink, per dozen	3	0		12	0
Gardenias, dozen	2	0		3	0	Smilax, per bunch	4	0		6	0
Geranium, scarlet, doz. bunches	4	0		6	0	Spiræa, dozen bunches ..	4	0		6	0
Hyacinths, dozen spikes ..	2	0		4	0	Stephanotis, dozen sprays	6	0		9	0
Hyacinth, Dutch, various, per box	2	0		5	0	Tuberoses, 12 blooms ..	0	6		1	0
Lilac (French) per bunch	3	0		4	0	Tulips, dozen blooms ..	0	6		1	6
Lilium longiflorum, twelve blooms	3	0		5	0	Violets Parme (French), per bunch	3	0		4	0
Lily of the Valley, 12 sprays	0	6		1	0	„ Czar (French), per bunch	2	0		3	0
Maidenhair Fern, doz. behs.	4	0		8	0	„ Victoria (French), 12 bunches ..	1	0		1	6
Marguerites, 12 bunches ..	2	6		4	0	„ English, 12 bunches	0	9		1	0
Myosotis or Forget-me-not, dozen bunches	3	0		6	0	Wallflowers, dozen bunches	2	0		4	0



THE EARLY LIFE OF THE CALF.

As corn-growing pure and simple is no longer the mainstay of the British farmer it is well that he should turn his attention to some other means of paying rent and taxes, and keeping his family in comfort. There is a great outcry at present, and a perfectly justifiable one, as to the danger of importing unhealthy store cattle either sheep or beasts. Thanks to our legislation and to our enlightenment stringent measures are taken in England to eradicate, or at any rate to keep in check, those fell diseases which work so much ruin among our live stock.

Now, other countries less careful, seem to pay little or no regard to what we may justly term animal sanitation. Not only do they enjoy (?) periodic seasons of devastating diseases, but with lavish liberality are most anxious and willing to pass them on to other countries hitherto free. Much of this might be avoided if there were no demand for these foreign stores, because

the best of them (even if sound) are not bred on the lines of English stock, and leave much to be desired in those qualities that go to make up ideal horned stock. There is still a demand for "the roast beef of old England" as well as for home-grown butter and milk, and it seems very advisable that the work of feeding and rearing young stock should meet (as it is in a measure doing) with increased attention at the hands of the farmer.

On a mixed occupation nothing pays so well as rearing your own stock. Given that stock must be had, the next difficulty is where to obtain such stock? Buy it you cannot, except at a farm sale, and then very dearly; any that find their way into the markets will be farm culls, queerly bred hill-siders, or wild Irishmen. Every spring it is the same old tale, yearlings dear, be other stock what it may. This spring they have readily sold for £9 or £10 each, and even more, so there must still be a little to be had out of them anyhow.

In speaking of stock sold at farm sales we are referring to what is really good, honest, and well bred. Quality is of the greatest moment, but quality must not take or usurp the place of size. Pedigree is all very well in its way, but the longest pedigree in the world will not compensate for a poor, ill-fleshed bullock, nor for a cow that will neither breed nor milk. We do not want a fancy article, whose value is problematical, but a good, everyday type, that does not disgrace itself in the slaughter-house or at the milk-pail.

Some people are great advocates for rearing calves with the bucket, and they can by this system be reared well and cheaply; but the very act of sucking is good in itself, as causing a greater excitement to the salivary glands and regulating the supply of milk to the stomach. Pail-fed calves are often hurriedly fed. By experience we have found that the best calves are those that have been allowed to suck. At the first blush of the thing this may seem an expensive method, but there is nothing like it for laying the foundation of a strong, healthy constitution, and the flesh a calf puts on in calf-hood should never be lost.

It is really wonderful how small a quantity of new milk is sufficient to rear a calf; but then that milk is absolutely new, of the proper temperature, and unadulterated. It is our custom (and we have had a lengthy experience) to milk a cow, say, for six months, then give her two calves to rear. If the cow is well and properly fed she must be a very poor one if she cannot rear those two calves. Calves cannot at first stand very much or very rich milk, and a cow that is popularly known as a good "butter cow" may and often does kill her calf by kindness—i.e., too much and too rich food.

A cow we remember whose milk was exceptionally rich was also a kicker and very difficult to milk, so she took a stranger calf as well as her own. One speedily died of cheese on the stomach—i.e., the milk being too rich, formed a hard, curdy mass, and could not pass away; the other we saved from a like untimely end by prompt measures. Then the experiment was tried of allowing her to feed three instead of two, and the result was eminently satisfactory. In after days we always provided this cow with three calves to rear up to the time they were four months old; then they were weaned, two other young ones given that had a like period of four months' suckling, only to be succeeded by two more. Thus we reckoned that this cow could and did easily bring up seven calves. There cannot be a much cheaper system than this.

Calves up to a fortnight old require very close watching. There is so much danger that the milk may be richer than is suspected, and a calf is far more easily killed by too much than by too little. The symptoms usually are diarrhoea, or "skit," brought on by indigestion. The cause of the diarrhoea must be removed—that cause is curdled milk. Give a dose of cholera mixture, followed directly by one of castor oil. The mixture imparts a little life and vitality. The

oil is almost certain to remove the obstruction if taken in time, hence the need of prompt measures.

In feeding a calf that has been brought from a distance the greatest care must be taken not to overload the stomach at the first meal. A pint of milk is ample, to be followed up in three hours with a more liberal allowance. Bought calves often travel great distances, and are drugged to save the bother and expense of feeding on the journey; and, we are sorry to say, we have found some calf dealers very unscrupulous men. "Once bit twice shy." When the calf is a month old a little hay or linseed cake, or a cut root or two, may be given it to play with, and it will soon begin to eat of its own free will. An older calf put with young ones acts as a teacher. We had intended to complete this outline of a calf's career in one paper, but so many thoughts crop up that cannot well be omitted that we think it wiser to say more at a future date.

WORK ON THE HOME FARM

The weather continues showery, not to say wet, whilst the temperature has fallen and rimy mornings are followed by high winds and storms of rain and sleet. Drilling (except on very dry soils) is at a standstill, the land being quite unfit as a seed bed at present, both too cold and too wet. There is still another fortnight of what may be called legitimate spring seed time, so it would be well to wait for finer weather rather than make an unworkmanlike sowing now. We are rapidly getting the manure out of the yards, some going on direct for Potatoes, the rest into hill for Swedes.

It is rather cold for turning cattle out, but out they must go, as straw is nearly used up; fortunately pastures have made a fair start, and with warm nights grass would soon be plentiful. Sheep are doing well on Swedes, of which we have still a month's supply; fortunately so, for those who are obliged to face present markets are in many cases making little if anything more than the animals were worth in October; we have even heard of losses of 4s. or 5s. in price alone, so that when casualties and keeping are reckoned the adverse balance becomes very serious. This is doubly disappointing, for the boom in wool had raised very high hopes as to the great things flocks were to do for us this year.

Thousand-heads sown now will make valuable food for sheep in October and November, and give Turnips a little more time to ripen; on rich soils the latter are sometimes slow in coming to maturity if the autumn be wet or sunless, then the great value of Cabbage and Kale for the autumn sheepfold is fully realised.

We do not drill Mangolds till the end of the month, but where there is little or no risk of damage done by spring frosts the sooner they are sown the better. The Mangold Wurtzel is a plant that requires time if large and heavy roots are required.

On low-lying carrs of peaty soil May 1st is quite early enough for Mangolds, as frost is very destructive to the young plants if they get their noses out too soon.

OUR LETTER BOX.

Field Carrots (Steward).—Two pounds of Carrot seeds per acre might be sufficient if the drills were very wide apart, and every seed was in its proper place; but 5 or 6 lbs. would be safer to produce a full plant and finer quality. If too thin they grow coarse, especially on rich land. A good strain of Altrincham is as good as any for the field; but for washing for market, or if the soil be rather shallow, Scarlet Intermediate is perhaps the best. Lucerne will have attention in a future issue.

METEOROLOGICAL OBSERVATIONS.

OAMDEN SQUARE, LONDON.

Lat. 51° 32' 40" N.; Long. 0° 8' 0" W.; Altitude 111 feet.

DATE.	9 A.M.					IN THE DAY.				Rain.
	Barometer at 32° and Sea Level.	Hygrometer.		Direc- tion of Wind.	Temp. of soil at 1 foot.	Shade Tem- perature.		Radiation Temperature		
		Dry.	Wet.			Max.	Min.	In Sun.	On Grass.	
1896. March and April.										
Sunday .. 29	29.786	39.0	37.1	N.	43.7	43.0	36.1	58.6	30.2	0.050
Monday .. 30	30.045	40.6	38.4	N.	42.8	51.2	32.2	92.9	24.9	—
Tuesday .. 31	30.213	42.6	39.0	N.	42.6	51.7	35.4	97.9	26.9	0.010
Wednesday 1	30.069	48.8	46.1	N.W.	43.4	51.9	42.7	74.6	32.1	—
Thursday .. 2	30.198	43.4	37.6	N.	43.0	49.6	33.7	83.5	25.0	0.010
Friday .. 3	30.152	44.0	40.4	N.E.	42.8	52.2	37.8	75.0	28.2	—
Saturday .. 4	30.214	43.6	41.4	N.W.	43.0	53.6	35.4	65.2	26.4	0.084
	30.097	43.1	40.0		43.0	50.5	36.2	78.2	27.7	0.154

REMARKS.

29th.—Dull, damp morning; rain from noon to 3 P.M., fair after, and fine night.
30th.—Bright sun almost all morning; generally cloudy in afternoon, with spots of rain; bright night.
31st.—Brilliant early and in afternoon, cloudy between.
1st.—Overcast with drizzle early, and spots of rain in morning; fair afternoon; clear night.
2nd.—Brilliant till about 11 A.M., generally cloudy after.
3rd.—Fine day, sunny at times.
4th.—Overcast day, raining from 3.30 P.M.
Cooler, in fact temperature about the average. Frost on grass on every night but one.—G. J. SYMONS.

LARGE DECORATIVE PALMS.

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Journal of Horticulture.

THURSDAY, APRIL 16, 1896.

DAHLIA ANALYSIS, 1883-95.

THE late spring and early summer of 1895 were much too dry and warm to suit such a moisture-loving flower as the Dahlia—indeed, it was not until rainy weather set in during the third week in July that the young plants had any chance of making much progress. After this time, the ground being unusually warm, they grew apace, but the season could not be called by any means a favourable or early one; consequently these adverse conditions should be taken into account when considering the following record of the number of blooms staged at the exhibition of the National Dahlia Society, held at the Crystal Palace in September last. With the exception of 1893 there were fewer Show Dahlias than at any exhibition for eleven years. The display of Fancies was about average, while the Pompons were more largely shown than for three years past. The Cactus and Decorative proved, however, the feature of the show, being more numerously staged than at any previous exhibition. The Singles, on the other hand, fell short of the number usually set up at "the National."

The number of blooms and bunches staged at the last five shows is given in the following short table:—

	1891	1892	1893	1894	1895
Shows (No. of blooms) ..	854	879	720	894	827
Fancies ..	286	340	270	301	287
Pompons (No. of bunches) ..	193	267	168	192	210
Cactus and Decorative, ditto ..	158	209	264	246	280
Singles (No. of bunches) ..	124	138	128	138	102

In the above statement the number of flowers shown in the classes set apart for three or more blooms of any one variety have not been included.

For the tenth year in succession that sterling variety Mrs. Gladstone heads the list of Show Dahlias. Last year, however, it was not nearly as frequently staged as usual, in fact not as frequently as five other sorts—John Walker, Harry Keith, William Rawlings, R. T. Rawlings, and Colonist. Of the established varieties, Mrs. Langtry, Willie Garratt, Mrs. W. Slack, and Prince of Denmark were also very indifferently represented at that exhibition. On the other hand, R. T. Rawlings, a singularly constant variety, was to be seen in more stands than at

any show for six years; that old favourite, Henry Walton, in more stands than for five years; and Miss Cannell than in any previous year of the series covered by the analysis. Colonist, Shirley Hibberd, William Keith, and Alice Emily were likewise unusually well shown.

There are two varieties on the table which, although first sent out about five-and-twenty years ago, still continue to hold their own bravely against the numerous kinds that have since then at one time and another found places on it. I need scarcely say that I refer to those two veteran Show Dahlias—James Cocker (No. 11) and Henry Walton (No. 13). Another remarkable feature in the table is that both the leading flowers, Mrs. Gladstone and John Walker, were raised by men whose names do not again appear in the list of raisers. Garratt, Eckford, Harkness and Harris, are also credited with only a single variety each. Of the remaining sorts sixteen were raised by Keynes, fourteen by Rawlings, five by Fellowes, four by Turner, and three by West. Another rather striking fact is that twenty-nine, or about 60 per cent., of the varieties on the list were sent out during the decade ending 1889.

As it is always interesting to follow the fortunes of the newer kinds we will now proceed to consider those which have been introduced since the end of the above decade. The four varieties which appeared in 1890, Duke of Fife (No. 18), John Hickling (No. 18), Majestic (No. 28), and Alice Emily (No. 40), remain pretty well in the same positions they occupied in the previous analysis. The year 1891 is altogether unrepresented. The four 1892 introductions, however, have all done well, John Walker coming, as before, only second to the premier flower, and having been shown last year in seven more stands than that variety. Arthur Ocock has risen from No. 11 to No. 9, Arthur Rawlings from No. 15 to No. 13, and William Powell from No. 24 to No. 17. Mrs. Morgan sent out in 1893, on its first appearance in the list takes a place at No. 22, whereas Mrs. C. Noyes, of the same year, only just manages to secure a footing at No. 48. Duchess of York distributed for the first time in 1894, and which in the last analysis was at the very bottom of the table, now rises at a bound to No. 9.

For many years Gaiety took the lead of all the Fancies, but since

SHOW DAHLIAS.

Position in Present Analysis.	Average Number of Times Shown.	No. of Times Shown in 1895 in True Relative Proportion to the Average.	Name.	Date of Introduction.	Raiser's or Introducer's Name.	Colour.
1	38.1	23	Mrs. Gladstone	1884	Hurst	Pale blush
2	29.5	30	John Walker	1892	Walker	White
3	25.6	25	Harry Keith	1886	Keynes	Rosy purple
4	25.5	24	William Rawlings	1881	Rawlings	Crimson purple
5	25.3	27	R. T. Rawlings	1886	Rawlings	Clear yellow
6	23.2	13	Mrs. Langtry	1885	Keynes	Cream and crimson
7	22.7	26	Colonist	1887	Keynes	Chocolate and fawn
8	19.3	21	J. T. West	1887	Rawlings	Yellow and purple
9	18.0	19	Arthur Ocock	1892	Rawlings	Reddish orange
9	18.0*	18	Duchess of York	1894	Keynes	Lemon, edged salmon pink
11	17.5	15	James Cocker	1871	Keynes	Purple
12	17.3	13	Willie Garratt	1887	Garratt	Bright cardinal
13	17.0	18	Arthur Rawlings	1892	West	Deep crimson
13	17.0	19	Henry Walton	1873	Keynes	Pale yellow and scarlet
15	16.8	15	Ethel Britton	1880	Keynes	White and purple
16	16.7	18	Maud Fellowes	1889	Fellowes	Pale pink, shaded purple
17	15.5	20	William Powell	1892	West	Primrose yellow
18	15.3	17	Duke of Fife	1890	Keynes	Rich cardinal
18	15.3	18	John Hickling	1890	Keynes	Clear bright yellow
20	14.9	10	Mrs. W. Slack	1886	Keynes	Blush white and purple
21	14.2	17	Shirley Hibberd	1881	Rawlings	Dark crimson
22	14.0*	14	Mrs. Morgan	1893	Fellowes	Pale ground, tinted rosy purple
23	13.7	14	T. J. Saltmarsh	1885	Rawlings	Yellow and chestnut
24	13.4	13	Harrison Weir	1883	Rawlings	Yellow
25	13.2	5	Prince of Denmark	1881	Fellowes	Dark maroon
26	11.8	19	Miss Cannell	1881	Eckford	Cream and crimson
27	10.1	9	Hon. Mrs. P. Wyndham	1881	Keynes	Pale yellow and rose
28	10.0	9	George Rawlings	1882	Rawlings	Dark maroon
28	10.0	9	Majestic	1890	Keynes	White, edged purple
30	9.9	6	Goldfinder	1881	Fellowes	Yellow and red
31	9.5	12	Mrs. D. Saunders	1888	Rawlings	Pale, edged rose
32	9.1	8	Prince Bismarck	1879	Fellowes	Puce
33	8.9	4	Burgundy	1877	Turner	Dark puce
34	8.3	3	Glow-worm	1889	Turner	Bright orange scarlet
34	8.3	13	William Keith	1888	West	Dark plum
36	8.0	9	John Standish	1872	Turner	Crimson
37	7.9	3	Clara	1879	Rawlings	Rosy peach
38	7.7	5	Crimson King	1887	Keynes	Deep crimson scarlet
39	7.5	1	Joseph Ashby	1879	Turner	Shaded orange
40	7.4	12	Alice Emily	1890	Keynes	Buff yellow
41	7.2	8	Earl of Ravensworth	1883	Harkness	Lilac
42	6.9	9	Mr. Glasscock	1886	Rawlings	Purple
42	6.9	9	Queen of the Belgians	1887	Rawlings	Cream and pink
44	6.6	1	John Henshaw	1883	Rawlings	Ruby crimson
44	6.6	1	Mrs. Harris	1873	Harris	White and lilac
46	6.3	9	James Vick	1881	Keynes	Purplish maroon
46	6.3	2	Mr. Harris	1881	Rawlings	Crimson scarlet
48	6.0*	6	Mrs. C. Noyes	1893	Keynes	Light fawn

* New varieties, the positions of which are dependent on their records at the 1895 show only.

1890 it has had to give way to Mrs. Saunders and the Rev. J. B. M. Camm, which since then have run an almost neck and neck race for the premier position. Last year, however, was the first in which the latter has managed to come in at the head of the poll. The collapse of Gaiety has been very remarkable, considering the prominent place it occupied only five years ago. At the last show it appeared in only one stand, and at the two previous exhibitions in but four and seven stands respectively. Dorothy and Rebecca were staged last year more frequently than usual, whereas Mrs. Saunders, Mrs. John Downie, Peacock, and several other well-known sorts were to be seen in but few stands.

There are but few varieties in the table which can be called in any way new. Of these T. W. Girdlestone, distributed in 1890, still remains at No. 7, while its companion of the same year, Buffalo Bill (No. 13) has risen three places. The only other Fancies of a later date than these are Comedian (1892), which rises one step from No. 12 to No. 11, and S. Mortimer (1894), which makes its débüt at No. 9.

The most noteworthy feature in the list of Pompons is the number of sorts of recent introduction, and the prominent positions most of them occupy. Some of the old favourites, however, are still shown as frequently as they were five or more years ago. For instance, E. F. Junker, Darkness, Whisper, Isabel, Red Indian, Favourite, and Eurydice.

The Cactus Dahlia, in comparison with the Show, Fancy, and Pompon, is altogether a new creation, and consequently very few have any history worth mentioning. In fact, Juarezii is the only variety finding a place in this analysis which was last year more than three years old. This will give some idea of the rapid advances that are being made in this section. Of the fifteen sorts mentioned in the list, four—Mrs. Barnes, Earl of Pembroke, Harmony, and Mayor Haskins—were sent out as recently as 1895.

The Singles, though not nearly as popular in the garden as they deserve to be, add greatly to the attraction of our early autumn exhibitions. Here, too, we find the newer sorts taking prominent positions, most of the varieties named in the selection being less than four years old.

In the following select lists the Pompons have been treated

in a similar way to the Shows and Fancies in the tables. In the case of the Cactus, Decorative, and Single varieties, however, the average number of times they were staged at the last two shows alone governs their relative positions in the lists. Those marked with an asterisk are new sorts, and the places they take dependent upon the number of times they were shown at the last exhibition only.

POMPONS.—Arthur West,* G. Brinckman, Phoebe, Tommy Keith,* Bacchus,* E. F. Junker, Darkness, Whisper, Captain Boyton,* Isabel, White Aster (Guiding Star), Red Indian, Lilian, Favourite, Grace, Admiration, Sunshine,* Lady Blanche, Eurydice, and Rosalie.

CACTUS.—Delicata, Countess of Radnor, Gloriosa,* Matchless, Lady Penzance, Bertha Mawley, Robert Cannell, Mrs. Barnes,* Countess of Gosford, Apollo, Kynerith, Earl of Pembroke,* Juarezii, Harmony,* and Mayor Haskins.*

DECORATIVE.—St. Catherine, Baron Schröder, Duke of Clarence, Black Prince, Marchioness of Bute, Cannell's Favourite, Harry Freeman, Mrs. Gordon Shaw,* Mrs. Hawkins, Lady Marsham, and Josephine.

SINGLES.—Phyllis, James Scobie, Victoria, Northern Star, Amos Perry, Mrs. Parrott,* Mrs. Wythes,* The Bride,* M.C.C., Miss Henshaw, Demon, Miss Glasscock, W. C. Harvey, and Evelyn.*

Where Dahlias are largely grown, as they should be in every garden for the purposes of autumn decoration and the supply of cut flowers, it is always a black letter day—"the first dark day of nothingness," when the plants are cut down by frost. What dismal objects do they not then present! For the past nineteen years I have kept a record of these black letter days, the dates when the Dahlias in my garden were completely killed. Looking down the list they are found to vary considerably. For instance, in 1888 all my plants were destroyed as early as the 3rd of October, whereas in 1894 flowers could be gathered up to the very end of November, giving a range of nearly two months. Taking the whole period, the average date comes out as November 3rd. Last year my Dahlias succumbed to frost unusually early—viz., on October 24th, which is ten days earlier than the mean date of their destruction, and earlier than in any autumn for seven years.—E. M., *Berkhamsted*.

FANCY DAHLIAS.

Position in Present Analysis.	Average Number of Times Shown.	No. of Times Shown in 1895 in True Relative Proportion to the Average.	Name.	Date of Introduction.	Raiser's or Introducer's Name.	Colour.
1	19.9	18	Rev. J. B. M. Camm	1873	Keynes	Yellow and red
2	19.3	10	Mrs. Saunders	1872	Turner	Yellow and white
3	17.5	19	Duchess of Albany	1884	Turner	Orange and crimson
4	17.0	10	Mrs. John Downie	1889	Turner	Orange and scarlet
5	15.3	12	Matthew Campbell	1889	Keynes	Buff and crimson
6	15.0	13	Frank Pearce.....	1886	Rawlings	Rose, striped crimson
7	12.0	15	T. W. Girdlestone.....	1890	Keynes	Lilac and maroon
8	11.6	19	Dorothy	1888	Keynes	Fawn and maroon
9	11.0*	11	S. Mortimer	1894	Mortimer	Rose, striped crimson
10	10.5	4	Peacock	1877	Turner	Maroon and white
11	9.0	10	Comedian	1892	Keynes	Orange and crimson
11	9.0	17	Rebecca	1883	Keynes	Lilac and crimson
13	8.7	8	Buffalo Bill	1890	Keynes	Buff, striped vermillion
14	8.3	8	Henry Eckford	1886	Rawlings	Yellow and red
15	6.8	1	Professor Fawcett	1881	Keynes	Lilac and brown
16	6.5	1	Chorister	1881	Keynes	Fawn and crimson
16	6.5	2	Mrs. N. Hall.....	1881	Rawlings	Scarlet and white
18	6.4	1	Gaiety.....	1879	Keynes	Yellow, red and white
19	6.2	3	Henry Glasscock	1875	Keynes	Buff and crimson
20	6.1	4	Flora Wyatt	1871	Keynes	Orange and red
20	6.1	3	George Barnes	1878	Keynes	Lilac and crimson

* A new variety, the position of which is dependent on its record for the 1895 show only.

NOTES ON VINE GROWING.

I HAVE read with considerable interest Mr. David Thomson's notes, "Episodes on Vine Growing" (page 222); but there seems to me to be an important omission respecting the soil used for the borders "that were trodden nearly as hard or firm as a road." Mr. Thomson gives us no idea of the texture of the soil or of its mechanical nature. I presume that it does not contain a large amount of clay, but, on the contrary, is of an open, porous nature that does not run together under the treatment he there describes, else the Vines would not have continued so long in such a satisfactory condition as they have done. I think it is a pity when such notes are written, especially by such an authority as Mr. Thomson, that more is not said regarding the nature of the soils used, because the instructions are apt to mislead those who are less experienced into errors, which might prove a source of trouble to them after the labour and expense in forming borders as there described.

Knowing as I do from long experience, and having had to deal with soils of very different and opposite textures, I should say that it would be a fatal error to put some soils together in the manner described by Mr. Thomson. Neither air nor heat would penetrate the soil I had to deal with in Yorkshire under such conditions; water might, and there it would stay; keep out the other equally important elements and every root would die. On the other hand, the soil I am living on now, which rests on a deep bed of gravel, can scarcely be trodden too much. To give an idea of the nature of the Yorkshire soil of the neighbourhood in which I resided, and consequently with which I had to deal, a ditch in one of my employer's fields had been cleared out about 2 feet deep, and a portion of the soil that was dug out in forming the ditch was put into a heap; it was black in colour and of so tenacious a nature that if a lump were held up as high as one's head it would drop like a lump of putty, and unless quite dry it would not break. Thistles luxuriated in it, Beans and Oats thrived well, but Potatoes and Jerusalem Artichokes were not satisfactory. But for Melon growing it was superior to any I have met with, for it would grow them to perfection, and that is just what it did do. The soil was carted directly from the heap to the Melon houses, nothing being added but a portion of old mortar, and there was no difficulty in getting two good crops of fruit from one stock of plants. The soil was not broken up in any way, but put into the border just as it came from the field, and it was very interesting to watch how the tiny white roots filled those hard lumps of black earth until they were white through with them. I wish I could meet with such a soil now for the same purpose.

I well remember an old gentleman, a neighbour of my employer's, coming over to see the garden one day during the time the family was from home, who professed to be a big man at Melon, Strawberry, and other fruit culture. When he went into the Melon house he seemed to be disappointed; he had come six miles to see mine in order to compare results with his own. "What!" he said, "no Melons! Don't you grow them now? You used to grow them well." I had to tell him that now the family was away there was no demand for them, that Cucumbers and Tomatoes sold much better than Melons. I could dispose of plenty of these, and each year made over £10 of my Cucumbers and from £6 to £7 10s. of the Tomatoes.

Such then was the nature of most of the soil on my employer's estate, and although the soil for the Vines was not taken from that field but one above it, it was of a similar nature, and ran together in a short time unless counteracting materials were liberally supplied to prevent it. To tread such a soil would be to court failure, for more than half the crop would come down through shanking, especially if a little too much water were applied. My neighbour—who lived only a mile distant and who was a thoroughly successful cultivator of both Vines and Peaches—had the same kind of soil to deal with. He told me, on first forming his acquaintance, that the best preventive to shanking in that soil was to keep the Vines dry at the roots, and give them plenty of heat and air. This I found to be most effectual. The inside portions of the borders received very little water after the stoning period, and the borders used to crack a good deal. These cracks were easily filled up by raking a little fine dry soil over them.

The soil I have to deal with to-day, which rests on deep gravel beds and consequently contains much gravel in itself, is so porous and open that too much treading and water in reason cannot well be applied, except the danger of the latter washing away and carrying out of the soil some of its most valuable substances, such as "the chlorides and nitrate of sodium and calcium (lime), and to a less degree the sulphate of sodium and calcium. The most important of these are the nitrates—nitrate of soda and nitrate of lime, as they are commonly termed."—(Fream). I have shifted over sixty cartloads this winter in renovating Pear tree borders, and the

men were not afraid to tread the soil as it was put in to fill up the borders. But with the Editor's permission I will give a short note on Pears at some future time, giving the names of the varieties grown, and how they behaved in a gravelly soil in 1894 and 1895. [Granted.—ED.]

The conditions essential to healthy root action are that "the soil be neither unduly loose nor unduly compact; its temperature neither too high nor too low; its texture permeated with air and moist, but not sodden." "It is found by careful experiment, as well as by the coarser operations of tillage and drainage, that the mechanical nature of the soil, and its power of absorbing and retaining water, are in most cases of much greater importance than its chemical composition, and hence while the latter point is not to be overlooked, nor the agency of manures regarded as by any means unimportant, yet these are in most cases secondary to the physical condition of the soil. The delicate nature of the root fibres, their marvellous powers of sensation and movement, also illustrates this, and shows the necessity for a proper relation between the nature of the roots and the porosity of the soil, its temperature, and power of absorbing water and various gases, such as ammonia. The care exercised by the gardener in the construction of well drained porous Vine borders, and in the selection of appropriate potting soil according to the nature of the plant and the characters of its roots, is thus abundantly justified. So, too, the character of root growth and the amount of root activity largely depends on the temperature and moisture of the soil. A hot, relatively dry soil tends to promote succulent growth; the plant, under such circumstances, is under the necessity of storing water, and those that by peculiarities of structure resulting from hereditary endowment can do this will be placed at an advantage.

"A porous, moist, warm soil is the most favourable for the development of fibrous roots and root hairs, the actual amount of heat, of course, varying according to different plants. A hot or waterlogged soil would cause the root fibres to decay. A cold one would either not allow of their formation, or, if formed, would offer such obstacles to their penetration that they would be of little value and gradually dwindle. The power, however, that roots have, under such circumstances, of extending themselves for long distances in search of a more propitious state of things is one of their noteworthy properties."—(Masters).

"The Grape Vine is a remarkably free-growing plant, and is found in a state of great luxuriance under many very opposite conditions, and in soils of a widely different character. The consistency of the soil, its mechanical composition, so to speak, appears to be of far more importance than the actual ingredients themselves of which it may be composed. For example, I know of Vines doing remarkably well on very calcareous soils, on deep alluvial loams, on very shallow soils, where the roots penetrate into the fissures of the rocks in search of food, as well as in beds of the richest manure. The Vine, however, is never found to succeed in wet, clayey, tenacious soils; a certain amount of aëration and porosity seems to be an absolute necessity, with an abundance of water at certain seasons. From these general principles, therefore, it will be seen that it is not difficult to arrive at a knowledge of the kind of soil best suited for the cultivation of the Vine, and that the formation of a Vine border is a task, the carrying out of which does not require any very great skill."—(Barron). True, when all these important details are taken into consideration, and others of a local nature which can only be determined on the spot and acted on with due thought and discretion. Always bear in mind "that plants do not feed on soil any more than bees feed on flowers. Bees take the honey and leave the flowers, and crops take what is honey to them out of the soil-food and leave the vessel—the earth—that contains it."—(Wright).

For the production of early Grapes I should prefer a soil of a porous, open nature, and not too rich; but for midseason and late Grapes, especially for the stronger growers, soil of a more substantial nature. I know gardens situated only a short distance from each other, the one having a light soil, the other heavy and retentive loam, and the former produces crops three weeks earlier than the latter, notwithstanding their both being under exactly similar climatic conditions.

I have had Vines under my care that have lost nearly every root by some mysterious cause or other that I was never able to find out, but by careful manipulation have induced them to put forth new roots above the surface that eventually took the place of the decayed ones, and the Vines thrived better on them than on their first roots. Take another example. I had two Vines in one of my best vineries planted in an outside border; the top of the border was within one brick thick of the wall plate, one brick being left out of the top course to allow each Vine to pass through, consequently there was only about 6 inches of stem between the top of the border and the inside of the wall plate. The stems were half as thick as my arm, and the Vines were growing luxuriantly at the

time, and each Vine had a full crop of bunches on ready to thin. Each hole on the inside of the house was covered with a flat piece of lead, with a hole large enough to allow the Vines to pass through. Now imagine my state of mind one bright Sunday morning, about eight o'clock, on going into the vinery and seeing the leaves and young growths of these two Vines hanging down in an apparently dying condition, for as soon as the sun touched them down they went.

I examined the pipes and thermometer, for it had been a sharp frost that night; yet I knew the heat could not have failed, for a new and powerful boiler had been put in not long before with abundance of piping. On getting down to the stems outside I soon saw the cause and the mischief. A rat had been during the night and torn away a portion of the covering, for 3 inches of litter were put on top of the border, and in his attempts to get into the house had gnawed the stems of the Vines half through, the thickest Vine being the worst gnawed. Here was a pretty state of things for a Sunday morning! Well, I took all the care of them I could, applied a bit of new soil, bricks, slates, and broken glass being used to counteract further ravages, which were several times attempted, until eventually a fatal dose settled the guilty culprit. My poor Vines struggled hard for a few weeks for existence, but by-and-by I noticed how young roots were being pushed forth, some of them more than a foot above the wall plate, until in about a month they seemed to have recovered. Not so the Grapes. Many shrivelled, some of the bunches curled right round, the points shrivelled, leaving a few berries on the upper shoulders only; but the following year they broke well, and grew as strong as they had done before.—WM. WEST CHAPMAN.

(To be continued.)

NARCISSUS POETICUS DANTE.

The poeticus section of the Narcissus is the one that is, perhaps, the most generally appreciated by growers, and considering the great beauty and utility of the flowers this cannot be wondered at. Such being the case thanks should be accorded to the Rev. G. H. Engleheart for his incessant endeavours to improve the flowers in all important respects. That he has succeeded so far as size is concerned is proved by the wood-cut (fig. 59), which represents a flower (natural size) of *Narcissus poeticus Dante*. This magnificent form was exhibited at a meeting of the Royal Horticultural Society held in the Drill Hall on the 7th inst., when a first-class certificate was very properly accorded. The colour is pure white, and the crown, which is very large, is of a brilliant orange red that greatly enhances the beauty of the bloom.

GARDEN PESTS AND ANTIDOTES.

EARTH PESTS.

(Continued from page 329.)

MANURES are of two kinds—(1) purely chemical or chemically treated, so that the organic matter contained is practically unavailable as food to animals, but slowly passes into the inorganic form—say organic nitrogen of dissolved raw bone or phosphate passing from this into ammonia—an animal poison, but food of vegetables when converted into nitrate. (2) Partly or wholly organic, and this not chemically treated, such as bone, rape, and other manures containing raw undissolved vegetable or animal substances upon which ground pests may feed and foster in.

Of these the latter have more ultimate value as manures and maintenance of what is known as "condition" in the land than purely chemical fertilisers, and some cultivators are returning to the use of these who recently relied chiefly on chemicals alone, as it is found better in practice to keep up the condition of the soil, and supplement organic matter with quickly acting inorganic or chemical manures. This is the course we advise. Apply what animal or vegetable manures it is intended or can be spared, giving all the land some, and then follow, or at the same time apply the other to supply the food essential for the requirements of the crop.

Most of our commercial fertilisers are so artificially compounded as to preclude the presence of crop pests, and contain such chemicals as are destructive of those existing in the soil. There are a number of these advertised, and the grower cannot do better—this is my experience—than procure such as the crop he intends to grow are specially prepared for, applying them according to the instructions. If the land be foul, a special application may be necessary, and the one I am going to advise will clear the ground of all the pests preying on vegetation, provided it reaches them. It is kainit, a combination of sulphur with potash and magnesia,

and of chlorine with soda and magnesia. Sulphate of potash is an essential plant food, so also is sulphate of magnesia, and though the land may contain enough magnesia for general purposes, it is not always in available form in sufficient amount for other requirements.

According to a consensus of experiments there is little insecticidal value in sulphates, but there is to the plant, and that goes a long way in overcoming pests. In a 23 per cent. sulphate of potash guaranteed kainit there is 12.56 per cent., or $12\frac{1}{2}$ lbs. per 100 lbs. of kainit of potash; and 10.32 per cent. of sulphate of magnesia or nearly (7.48) $7\frac{1}{2}$ lbs. of magnesia per 100 lbs. of kainit. Some of the magnesia, however, exists in the kainit as chloride of



FIG. 59.—NARCISSUS POETICUS DANTE.

magnesia, 9.62 per cent. This, and the chloride of sodium, 41.76 per cent. give 51.38 per cent. of chlorides, and it is these that act destructively on ground pests. More than half of kainit, therefore, is not plant food, but medicine to vegetation. To some plants the chlorides are not beneficial, as is the case when the foliage becomes yellowish after an application, but to some, such as cruciferous plants, also chenopodiaceous, it acts like a charm, as on the Cabbage tribe, Beets, and Spinach, increasing the weight of crops considerably, and making the plants healthier and less susceptible of climatic changes.

The kainit must be in a finely powdered condition, freshly riddled or ground, and ready for use, also a guarantee had with it of 23 per cent. sulphate of potash = 12.50 per cent pure potash (the oxide K_2O). The proper time to apply the kainit is at the latter part of September, before the mottled umber and winter moths have emerged from the pupal state, or at the close of February, before the March moth and other pests have taken to an

aërial mode of life. The amount to be supplied depends upon circumstances, and with regard to the plant or crop to follow.

Ordinarily the land, whether grass or arable, is in three states :—1, Clean and in good condition ; 2, Moderately clean and in fairly good heart ; 3, Neglected, foul alike with both weeds and vermin. On well worked soil, and where there has not been any particular trouble from ground pests, $2\frac{1}{2}$ cwt. per acre, $1\frac{3}{4}$ lb. per rod, 1 oz. per square yard is a proper dressing. This amount will not prejudice any kind of crop whatever, even when sown with the seed or the setting of the plants. It is the smallest amount of any service against ground pests, or as a manure for the potash = 35 lbs. per acre. This is a fair annual allowance of potash on loams and clay soils, in addition to that supplied by not less than 10 tons of good animal manure per acre, and the amount of chlorine is not so large as to injure crops, while it is hateful to pests either in the soil or out of it, as the chlorine certainly enters the plant and is mostly retained in the leaves, thus made distasteful to their enemies.

In fruit gardens and orchards, where there is fair balancing of the constituents essential for fruit production, and on land in fairly good order and condition, 5 cwt. per acre, $3\frac{1}{2}$ lbs. per rod, 2 ozs. square yard is a good and full dressing. It will supply 70 lbs. of potash per acre, and according to Mr. R. Warrington's, F.C.S., "Chemistry of the Farm," the following ten farm crops require a goodly supply :—

17 tons	Turnips with their tops abstract	149 lbs. of potash per acre.
14 "	Swedes "	80 "
22 "	Mangolds "	301 "
6 "	Potatoes "	80 "
$1\frac{1}{2}$ "	Meadow hay "	51 "
2 "	Red Clover hay "	83 "
30 bush.	Beans with straw "	67 "
30 "	Wheat "	29 "
40 "	Barley "	36 "
45 "	Oats "	46 "

Kainit is, therefore, desirable for supplying potash, and looking at the large amounts abstracted by Turnips and Mangolds the dressing is totally inadequate, and remember these crops—cruciferous and chenopodiaceous—are greatly benefited by the chlorides as well as by the potash. For Swedes, Potatoes, Clover and Beans the dressing is about ample, considering that there is always some waste, and that the land will supply some. As regards garden crops the percentages of potash contained in the ash shown below indicate that the application would not do harm on that score :—

Asparagus, straw ..	51	per cent.	Parsnips	46 $\frac{1}{2}$	per cent.
Broccoli, heart ..	51	"	Turnips	49 $\frac{1}{2}$	"
Cabbage, whole ..	41	"	Apple, fruit ..	38 $\frac{1}{2}$	"
Beans	37	"	Cherry	51	"
Peas	43	"	Gooseberry ..	38	"
Onion bulbs	32	"	Pears	54 $\frac{1}{2}$	"
Potatoes, tubers ..	37	"	Plum	59	"
Beet, roots	48	"	Strawberry ..	21.49	"
Carrots.. ..	37	"	The Grasses ..	20.42	"

The leafy parts contain about half as much potash as the "hearts," "roots," "tubers," and "fruits," and there chlorine comes in most pronouncedly.

In cases of extreme foulness 10 cwts. of kainit may be applied per acre, 7 lbs. per rod, 4 ozs. per square yard. Even this large quantity will seldom do any harm, particularly on soils liable to "burn up," a liberal dose on these not being objectionable. On specially cold heavy soil kainit may not be an advisable application, either from a fertilising or pest-destroying point of view, as such soils are not deficient in either saline matter or chlorine.

In applying kainit to land after February it should be in conjunction with superphosphate and nitrate of soda, using in every case as much superphosphate as kainit, and a quarter the amount of nitrate of soda. Examples :—1, Kainit, $2\frac{1}{2}$ cwts.; raw bone superphosphate, $2\frac{1}{2}$ cwt.; nitrate of soda, $2\frac{1}{2}$ qrs. = 5 cwts. $2\frac{1}{2}$ qrs.; mixture per acre, 3 lbs. 15 ozs. per rod, 2 ozs. per square yard.

2, Kainit, 5 cwts.; raw bone superphosphate, 5 cwts.; nitrate of soda, $1\frac{1}{4}$ cwt. = $11\frac{1}{4}$ cwts.; mixture per acre, 8 lbs. per rod, 4 ozs. per square yard.

3, Kainit, 10 cwts.; raw bone superphosphate, 10 cwt.; nitrate of soda, $2\frac{1}{2}$ cwts. = 1 ton $2\frac{1}{2}$ cwts.; * mixture per acre, 16 lbs. per rod, $8\frac{1}{2}$ ozs. per square yard.

The respective mixtures should be distributed evenly and lightly harrowed or raked in with the seed or crop. As a top-dressing on bare ground to fruit trees rake in lightly, also for other crops as practicable. In orchards in grass distribute evenly when the ground is moist, never when dry, and with the herbage fairly free from dew or rain, so as to allow the mixture to fall on the ground or trickle down as the grass is moved by the wind, for the rain to wash in.

The advertised fertilisers contain the substances named for

compounding the mixtures, or their equivalents, in various forms, and on those grounds I strongly advocate their use as fertilisers, destroyers of ground pests, aiding the plant to withstand climatic changes, resist the attacks of fungoid and insect enemies, and enabling it to produce full and perfect crop, whether of leaf, flower, fruit, or vegetable. Understand, therefore, that the mixtures are not intended to clash with proprietary preparations, but are given as effective for the destruction of ground pests, and at the same time acting as first-class fertilisers.

During the summer or growing period the whole mixture respectively may be supplied with discriminative judgment, but after July the nitrate of soda should be omitted, using the kainit and bone superphosphate. This mixture of kainit and superphosphate may be supplied early in autumn or in the early spring, not later for fruit trees than the end of February, or as soon as the winter's frosts break up, following with the nitrate of soda when the bushes or trees commence growing. This is better from a fertilising point of view, but from that of both a manurial and pest-destroying the whole mixture acts well supplied when bushes or trees swell their buds or when seeds are sown or plants set. Thus two birds are killed with one stone, which is what the cultivator usually aims at, and accomplishes effectively when using the right materials in the proper amount and at the fit time.

—G. ABBEY.

(To be continued.)

HARDY FLOWER NOTES.

THE tortoiseshell butterfly flitting from flower to flower seems the emblem of the flower-lover in these delightful April days, for the eye, distracted by so many fair forms and colours, rests not for long on any one, but roams from plant to plant. Thus it is that it is difficult at this time to concentrate our thoughts on a few flowers instead of straying among them here and there, culling a blossom from each for our posy to be depicted by the pen. Still, it must be done, and with a sigh at the thought that flowers of beauty must merely be glanced at we turn our thoughts to a few alone.

One of the charms of gardening is that of bringing us into association with master minds of long past years and with the superstitions and thoughts which in bygone times clustered around the flowers we love to grow. And in this no branch of gardening is like hardy flower growing, for these plants, which come up from year to year, come in time to form as much a part of the lives of those who love them as the homes they render doubly dear by their grace and beauty. Thus, as we turn up the flowers of the Crown Imperial and see the pearly drops which stand within, we think of what others have seen in this plant, stately as it is, though somewhat stiff.

The quaint German legend in which the tale of how the Crown Imperial, once white and with erect flowers, came to have its coloured, drooping blooms, comes fresh to us each year as we see its stout stem with its row of pendent flowers surmounted by a tuft of leaves like some warrior's plume or the feathers of some savage on war intent. The legend is not in keeping with the last simile, for it tells that the drooping flowers and the coloured flowers came as the result of sorrow and shame, so deep was the contrition of the flower at not having bowed its head with the other flowers when our Saviour on the night of the Agony was in the Garden of Gethsemane, and that these pearly drops were the tears shed by this Imperial Lily in its grief. Smile as we may at the quaint conceit of the legend, who is there among us who will not say that the flower is made dearer to us by the tale? Then, too, it was one of Shakespeare's flowers, and was named in his "Winter's Tale." Admired it must have been by George Herbert also, for he tells us in his poem on "Peace,"

"Then went I to a garden, and did spy
A gallant flower,
The Crown Imperial,"

and thought that a flower "which shew'd so well" might possess that object of his search. So, as we look at the flower, we are reminded of the author of "The Temple," and we think that mayhap the garden in which he saw the "gallant flower" was his own one at Bemerton, and that he may have passed and looked at the flower many times in the few spring-times he saw in his Wiltshire rectory garden. But one must cease from this aspect of the Crown Imperial, or Parkinson and Gerard would require to be quoted, and a little should be said about the more prosaic points of varieties and cultivation.

The red varieties of *Fritillaria imperialis* are commoner than the yellow ones, and it is but seldom that we meet with the latter in ordinary gardens, and the variegated-leaved forms are even rarer,

* To be supplied at two or three dressings when likely to injure crop by overdose.

very beautiful as is their foliage. The silver-variegated one is very pretty, and in the spring a good clump is much admired. So may we say the same of that with golden variegation, which should be added where a collection of Crown Imperials is desired. Then there are the sword-stemmed one with flattened stem and the crown on crown with two rows of bells. The Crown Imperials are impatient of disturbance, and like a good rather stiff soil.

To look at a clump of *Sanguinaria canadensis* with its snow-white flowers open to the sun one is at a loss to understand why it had not a more pleasing name given to it than that of the Canadian Bloodroot. Its flowers have no tinge of red save on the unopened buds, when they come with blushing hue. The name is, however, appropriate enough, as the root yields a reddish juice which, we are told, is used by the Indians for medicinal purposes, and also forms the base of the red and purple dyes used by them for basket and other work. I like to look upon its little white cups, which afterwards open out almost flat like saucers, with their yellow centres, and to see its lobed Coltsfoot-like leaves wrapped round the flower stems whence they are unfolded just before the flower is past. The variety I grow is major or grandiflora, which is larger and prettier than the typical one. The Puccoon or Canadian Bloodroot likes a rather peaty soil with a good supply of moisture. Some recommend growing it in a half shady place, but with me it does best in full sun.

Very pretty are some of these Grape Hyacinths, which give us both delightful shades of blue and also sooty black. I should not like to say it is the finest, but certainly *Muscari atlanticum* is one of the prettiest of the smaller forms. Very pretty is it with its dwarf habit, its conical-shaped heads of flower, and its deep blue blooms, each with a little ring of white round the external orifice. Like nearly all the others it is easily grown, and has, what is alike a merit and a fault, the property of increasing rapidly.

The Corydalises or Fumitories are, somehow or other, not very highly appreciated by many, yet they are worth growing, and some indeed are very fine. *Corydalis bulbosa* is one of the best known of the spring-flowering ones, and several clumps growing here and there are a good deal admired, slightly dull-looking as are the purplish rose flowers. I have also the white variety, which is not so well known. There is also a pretty white *Corydalis*, known as *C. cava* or *C. tuberosa*, and which has the small leaves that grow among the flowers quite entire. This does not seem to be named in the "Kew Hand List," and I for one can see little difference between *C. cava* and the white variety of *C. bulbosa*. Mr. Allen has sent me a very superior seedling, with larger and denser clusters of flowers.

One reads with pleasure that the curious, but pretty, *Iris orchoides* has been recently brought before the notice of the Royal Horticultural Society. I think I spoke of it last year, but it is worthy of being briefly mentioned again, so distinct looking is its habit, and so pleasing its yellow flowers. It is quite hardy in my garden, and is considerably admired. One feature of the plant is the silvery sheen upon its foliage, and another the production of some of its flowers from the axils of the leaves. I grow it in fairly good, but light, loam, fully exposed to the sun and air in a level bed. It comes from the mountains of Turkestan, whence it was first introduced by Dr. Regel.

Several Tulips are in flower in the open, and very soon there will be many in full beauty. Unfortunately some appear to have suffered from having come too early into growth so as to be injured by what little frost we had. Thus some buds have gone blind, and in other cases the foliage has been injured. I am pleased, however, to see that a pretty Tulip kindly sent me by a friend in Chios has come into flower. One is disposed to view with doubt the prospects of flowers from so warm an island surviving our British winters, but as this Tulip stood the winter of 1894-5 besides the past mild one, I think I may take its hardiness as assured. I do not know what species it is, which I regret (for I do not entirely share the view expressed by some that naming of plants is to a great extent unnecessary), but it appears to be a form of *T. Gesneriana*, and is very handsome with its tall habit and blood-red flowers. It suffers in effect from being planted near the even more brilliant *T. Greigi*, which is in flower at the same time.

Charming on the rockwork are the clear yellow flowers of *Morisia hypogaea*, together with quite a multitude of other rock garden plants, for which there is no space for detail. In the borders there are Anemones, Daffodils, Fritillarias, Triteleias, Aubrietias, Arabis, *Scilla italica*, Adonises, Forget-me-nots, Wallflowers, Primroses, with the many others brought into bloom by the breath of the April winds and the smiles and tears of the month. We, who admire the spring flowers, are more in harmony with the smiles than the tears, for we have around us the plants we love, which smile, too, as they nod to the winds, or look up to the skies with their changing moods, in which, happily for us, brightness has the highest place.—S. ARNOTT.



MEMORIAL TO THE LATE MR. GEORGE PRINCE.

I WAS enabled to announce at the meeting of the Committee of the N.R.S. on Tuesday that I had received great encouragement in the project of instituting a memorial prize for Tea Roses, in recognition of the great services which our late friend rendered to the cultivation of this beautiful class. A circular is now being printed asking for the contributions of all rosarians; in the meantime any sums may be sent either to me or to my co-Secretary, Mr. Edward Mawley.—D., *Deal*.

HYBRIDISATION OF ROSES.

IN the autumn of last year Mr. A. Hill Gray offered through the National Rose Society the sum of £5 as a prize for the best essay on "Hybridisation of Roses," and the prize was supplemented by a silver medal presented by the Society. Six essays were sent in, and at the meeting of the General Committee of the N.R.S. on Tuesday afternoon, Mr. C. E. Shea reported that the adjudicators had awarded the prize to the essay having the motto "*Fortunæ cætera mando*," and on the envelope containing the name being opened by the Chairman of the meeting, it was found that the writer was Mr. Walter Easlea, one of the foremen in the nurseries of Messrs. William Paul & Son of Waltham Cross. The prize essay will be published by the Society in the course of the current year.

ROSES FOR THE GARDEN.

I ENTIRELY coincide with "H. D.'s" opinion (page 332), which, indeed, I have never questioned, that *Perle des Jardins* is more suitable than *Maréchal Niel* for garden cultivation. The former is not so beautiful or impressive—as I endeavoured to demonstrate in a previous contribution—as the older variety, which, however, as I have discovered from experience, requires an exceptionally favourable season for the manifestation of its splendid resources; but *Perle des Jardins* is, as your contributor asserts, of more perpetual character, and altogether more reliable for open-air culture. Climbing *Perle des Jardins* does not succeed so well with me as the border variety; perhaps because my plants of the latter have a more open and sunnier situation than those grown on the wall.

Maréchal Niel, when grown under highly favourable atmospheric conditions in the open air, is much grander in dimensions and deeper in complexion than when cultivated under glass. I have had it much larger and finer in my garden than I have ever seen it in my conservatory. But I cannot count on this as an annual experience, for every season is not equally propitious; and I have always found that it is very easily injured, either by frost or by heavy rains. The self-same attributes which constitute its beauty create its susceptibility to the influence of antagonistic elements such as these.

A Tea Rose combining the characteristics of *Maréchal Niel* and *Perle des Jardins*, the size, form, fragrance, and delicate colour of the one, and the hardiness and perpetuity of the other, would be a great acquisition. *Madame Hoste* is very beautiful and exceedingly productive, but somewhat lacking in fulness. *Medea* is a closer approximation to perfection, but I do not always find it, except in sultry seasons, quite so reliable. *Madame Chedane Guinoisseau* has a depth of colour rivalling that of the Persian Yellow, but its flowers, though distinctive and freely produced, are very small. *Princess Beatrice*, in beauty of complexion and refinement of aspect, almost rivals *Maréchal Niel*, but it is a wretched grower, and for the most part exceedingly sparing of its blooms. *Marie Van Houtte* is in my opinion one of the finest Roses for the garden. Its colour is very fascinating, yellow shading into creamy white, the outer petals being occasionally bordered with pale carmine.

Of climbing Roses for the garden two of the most effective are the many coloured *L'Idéal*, and that charmingly scented Hybrid Noisette *Madame Alfred Carrière*. The latter has invariably a peculiar softness and sweetness of aspect. Its light green, wide-spreading, luminous foliage affords a striking contrast to the deeper and darker hues of *Perle des Jardins*.—DAVID R. WILLIAMSON.

ROSE CULTURE.*

THIS is my subject, which I propose to take in the following order—1, Roses in general; 2, Preparing the ground for them; 3, Protecting, pruning, watering, and exhibiting; and concluding with a few words upon Roses in particular.

ROSES IN GENERAL.

Speaking of Roses in general it must always be remembered that there are Roses and Roses. The same modes of treatment do not apply equally to all. No Rose culture will be successful which does not recognise and is not ruled by their infinite variety. Hybrid Perpetuals (H.P.'s), for example, I consider quite as distinct as boys and girls, and as equally needing distinctive education. Those "fair sex Roses," as

* Paper read by the Rev. ALAN OHEALES before a meeting of the Reading Gardeners' Mutual Improvement Association.

Mr. Frank Cant has so happily designated them, as they represent the softer sex, so they demand more gentle handling.

"Use the woman tenderly, tenderly,
Of a crooked rib she was made slenderly;
Straight and strong besom did not make her,
And if you try to bend you'll break her."

Teas must not be treated quite as their coarser and hardier brethren. Then again the whole race of Briars, Austrian, Persian and Harrisoni, and now the Lord Penzance Sweet Briar series, these all require distinctive treatment. So again climbing Roses and Roses under glass. Each class must be considered and dealt with as distinct if real success is to be arrived at. Some Roses will grow anywhere, others will grow nowhere, except under the most very favourable circumstances, careful culture, and study of characteristics alone will obtain full answer to the poet's entreaty.

"Queen of fragrance, lovely Rose,
The beauties of thy leaves disclose!
The winter's past, the tempests fly,
Soft gales breathe gently o'er the sky,
Then haste thy beauties to disclose,
Queen of fragrance, lovely Rose."

PREPARING THE GROUND.

This comes naturally as a first consideration. The way this is done will depend on the nature of the soil, according as this is light or heavy, or whether the bed is intended for H.P.'s or Teas. Under any circumstances I should recommend an initial trenching of at least two spits deep. If the ground be stiff drainage will have also to be attended to, and cinders may be used with advantage to lighten it; if it be gravel or shale a clean clear out to the depth of 3 feet at least may be desirable. Dean Hole tells a story of a cottager who swapped the gravel subsoil of his garden with a neighbouring farmer for a dried up pond, and both the road and the garden turned out gainers; it is true his gravel walks had to be made of cinders, if you will allow the statement, but his crops in a couple of years were prodigious. Mr. D'Ombrian thus describes the making of a model Rose garden at Reigate, where expense was no object. "It is trenched to the depth of 3 feet. At the bottom is placed a layer of clay, then a layer of loam, then a layer of manure, and so on, until the bed is finished."

Fresh loam, of course, is the best soil of all, but Roses are hearty feeders; with Manettis and standard Briars it is almost impossible to manure too heavily, so long as the manure does not come into actual contact with the roots. I remember Mr. Keynes of Salisbury, years ago, when I was admiring his marvellous maiden blooms, telling me that with him every Briar stock planted had always a solid foot deep of manure placed beneath it, and certainly I never saw more magnificent standards. If Roses have occupied the spot before, then I advocate the entire clearing out of the bed and fresh soil bringing in. Roses hate to follow Roses. After a certain time, too, the soil becomes utterly sick of them; a moderate amount of change is good for us all. It is very much the case of that Scottish congregation, which very generously made up a purse and sent their minister for a tour on the Continent. Shortly after a neighbour came across one of the deacons. "I have lately met your minister in Switzerland. He did not look as if he needed a change." "No," said the other, "it was na him; it was the congregation that needed it." If the plants do not require it the ground soon will.

When I was growing for exhibition I used to abolish my Rose beds about every seven years, and let them undergo a complete change of crop for some two or three years. Of course, when not exhibiting, they can be left some years longer. I am told that Strawberries make a very good succession crop. The late Mr. Bennett also tried Turnips with advantage. These suggest again the famous four course of the farmer.

A long time ago, about 1810, in those famous years for agriculture, when a man could take a load of Wheat to market and sell it, and buy £100 worth of Consols with the proceeds—rather a contrast to these days with Wheat at 20s. the quarter, and Consols up at 110!—in those palmy days of tillage, and when every available acre was under the plough, it is said that a certain archdeacon, inspecting a churchyard which had lately been enlarged, was shocked to find a fine crop of Turnips growing in it. "Oh, Mr. Smith!" he exclaimed, "this is all wrong." "No, I assure you, Mr. Archdeacon," was the reply, "it is all in proper course; it will be Barley next year?" He thought it was his agricultural skill that was questioned.

Situation.—In respect of this there is a great variety of tastes amongst Roses. Some must have a south wall and a southern county, and then very likely may take offence at something. Others, again, poor coarse things! as Dean Hole says, have "no more pride than a Dahlia after a sharp frost"—Aimée Vibert and Old Glory being notable examples. Then, again, how *not* to grow them, had also to be alluded to. Mr. Mawley wrote about this very strongly in 1876; and I am not sure that even now matters are very much mended:—"Not one Rose in fifty is grown under conditions in which it could reasonably be expected by anyone who understood anything at all about the matter, to yield even tolerably representative blooms. I will say that in every class of garden, without exception, Roses are frequently to be seen growing in one or other of the three following positions. 1, In the centre of a small circle cut out of the lawn, the remaining space of which is filled up with either spring, bedding, or climbing plants; or, 2, in the midst of a crowd of other flowers in a mixed or decorated border; or 3, on a lawn without

any turf whatever cut away from around them. This is by far the most fatal position of all. Now, even as the shark is the most voracious and insatiable of fishes, so is the Rose its representative amongst flowers. How, then, can such a beautiful but hungry creature be expected to retain health and vigour when condemned to feed for ever off the same small plate of food with a lot of other hungry little creatures? Everyone is aware that the queen of flowers has not pretty feet, but it may not be generally known that they are of so tender and, I may say, gouty constitution, that they cannot endure the pressure of even the lightest flower, much less of dainty looking but far heavier turf. To my mind this dainty grass would much more appropriately cover her grave—aye, and often does so cover it! This deplorable condition of the kingdom of Roses is one which I think all true and loyal subjects of the Rose ought to do their utmost to rectify, both by precept and example, on every possible occasion that presents itself."

(To be continued.)

RULES FOR JUDGING—A JOKER.

So the new illuminant of the *Journal of Horticulture*, yclept "Old Provincial Judge," when he told us he knew everything that he found in the code did not mean what he said on page 257, but was only poking a sort of bucolic fun at the no doubt, to him, certain London dandies. "A. D." evidently did not so regard the peculiar disquisition, but treated it seriously, and he was certainly not the only one who failed to detect the motive of the man who, it would seem, was over-weighted with the seriousness of his own native witticisms.

When the serio-humorous old provincial writes again, it might perhaps be well for him to take a lesson from one who in his day was not less sprightly—the late Artemus Ward, and make it clear when he is not serious by an explanatory heading, "This is a goak." It would save trouble. Still, the truth will sometimes shine, even through the heaviest and cloudiest of humour; and even this frolicsome old judge does not appear able to obscure the fact of his having a very good opinion of himself.

He really must be a wonderful old specimen after all; and if the responsible officials of shows could be equally impressed that his own knowledge and ways are so much better than those of his contemporaries, they might save their societies something by letting him run in single harness, as linking him with another, of necessarily lesser knowledge and more faulty methods, must be to him a rather serious drag, while time must be lost in pointing out to his inferiors the errors of their ways.

This "old provincial judge" is, however, by no means a solitary specimen of his kind. He is only one of a large family after all, whose words fall trippingly off tongue or pen, but which, as in this case, have either no meaning or convey erroneous impressions. These talented individuals are no doubt proud of their skill in accomplishing such feats, as well as of their escape from the consequences under the convenient veil of irony. Their policy is to wait while others work, in at least trying to do something (for nothing), and then when the time comes for making a mark the opportunity is irresistible, not for useful criticism in pointing out oversights or suggesting amendments, but for "poking fun" at the workers for their foolish pains.

The practice is not without certain advantages. For one thing it is easy—so easy that scores of London *gamins* are experts in the art by practice be it noted (as even experts must have experience), by adroitly placing the thumb in contact with the olfactory portion of their physiognomy and gracefully twirling their fingers in the air. These fun-poking pranks are also amusing—to the perpetrators, and as the querky old judge tells us that he is in happy possession of risible faculties and laughs when he is reading, it is fair to suppose that it must be something of a treat to see him when he is writing.

Another sight, but of a different nature, would be to see one of these smart know-it-alls (when others have shown the way) judging all alone and unfettered, say the Orchids at the May show of the R.H.S., the premier class of Chrysanthemums at the N.C.S., the trophy class of Roses at the N.R.S., or even one of the new mixed classes at Shrewsbury, to which something like an unheard of condition is attached that the points must be "exposed." If, with all his self-confidence (on paper), this celebrated provincial should be invested with such responsibility he would, perhaps, not find it much of a laughing matter while the world was waiting for his verdict.

Night after night for weeks prior to that working, not joking, ordeal we might picture him pouring over the "code," learning by heart the merits and defects of the different products, while the old lady called to him in vain to rest from his labours. It would never do for an adjudicator of eminence to judge by open book. It would be derogatory to his dignity, apart from raising a suspicion as to his capacity not being quite equal to his own estimation, and that would be no joke. The "code" then, with all its faults, which our particular judge has done nothing to amend, may yet be useful, as he cannot tell what he may be called upon to do.

But with all his *fau*—no, merits—it is well that we should have such men among us, our complacently quizzical, if a little bumptious, serio-comic old adjudicators. They give variety to life, and make care weigh less heavily in this world of work to most of us. They dance to our digging, and even carry their frolicsomeness into the press and—enjoy it, happy in their rural seclusion, and not the less so if they can move to something like madness, yet without arousing any feelings of badness —ONE OF THE FORTY-SIX.



EVENTS OF THE WEEK.—In connection with the meeting of the Royal Horticultural Society at the Drill Hall, on Tuesday next, the annual show of Auriculas and Primulas will be held.

— **WEATHER IN LONDON.**—Once again we have to record a week of very changeable weather, true April style it is termed by some. On Saturday and Sunday very heavy showers fell at frequent intervals, while the air on the evening of the latter day was very cold. Monday was dry, but cold winds continued, while Tuesday morning was wet, and the atmosphere heavy throughout the day. Wednesday morning opened bright and cold.

— **WEATHER IN THE NORTH.**—During the week ending Tuesday morning there has been a good deal of unpleasant weather, high, cold, westerly and north-westerly winds prevailing for some days, and heavy showers of rain and sleet during both day and evening. The evening of the 10th was particularly stormy, and there were a few loud peals of thunder between 8 and 9 P.M. Sunday was bright and cold; Monday finer towards evening; on Tuesday morning the higher and lower hills were white with snow.—B. D., *S. Perthshire*.

— **THE PEOPLE'S PALACE HORTICULTURAL SOCIETY.**—The annual meeting of this Society was recently held, and a large number of members attended. The Society has existed since January, 1894, and has as members 346 adults and 54 children, a large proportion of whom exhibit at the Society's shows. The report shows a steady increase in the number of exhibits and improvement in their quality. Bi-monthly social meetings will be held, and an excursion made to some place of horticultural interest. The financial position of the Society is satisfactory, although the members' subscription is low so as to bring it within the reach of the poorest.

— **WOLVERHAMPTON SPRING SHOW.**—The second annual exhibition of spring flowers under the auspices of the Wolverhampton and Staffordshire Auxiliary of the Gardeners' Royal Benevolent Institution, was held in the Drill Hall last week, when a magnificent display was brought together. Almost all the leading trade growers were represented in some form or another, and the number of private gardeners who sent flowers, plants, fruits or vegetables was very large indeed. Everything seasonable was staged, and that in such splendid condition as must have been gratifying both to the visitors and to the promoters. Through the show last year this worthy institution benefited to the extent of upwards of £60, and it is hoped that the financial returns were this season even better than last.

— **THE FRUIT COMMITTEE AT CHISWICK.**—Whilst it is earnestly hoped that it will be practicable to secure the required attendance of eleven members at the future Chiswick meetings of this body, so as to enable full awards to be made to plants grown in the Gardens for trial, it must not be overlooked that one of the chief causes for the moderate attendance of members that is usual is the impossibility of fixing the date of such a meeting at any appreciable time beforehand. If, say, fourteen days' notice could be given, it might often admit of arrangements being made that would enable members to attend. But it is very difficult in relation to various crops, Peas and Beans for instance, to determine long beforehand just when they will be at their best. That is a difficulty not easy to overcome. It is admitted that, given a fine day the Chiswick gatherings are always very enjoyable, not only because the plants are seen in a growing state, but also because there are usually many things of interest to be seen in the Gardens. Perhaps added to the stimulus to better attendance recently furnished by the Council, some additional attraction may be found in natural curiosity to see how the Gardens go on under the new Superintendent. Most members of the Fruit Committee would, I am sure, be very pleased were it found possible to increase the area of ground, all too limited, now devoted to the trials of vegetables. Some day, perhaps, that may be had. A matter of some importance in relation to the Chiswick meetings is the undoubted fact that these usually fall in the season when country shows are plentiful. For that reason it is well to have a good contingent of metropolitan members who may not be so engaged.—A. D.

— **ROYAL HORTICULTURAL SOCIETY.**—The next Fruit and Floral meeting of the Royal Horticultural Society will be held on Tuesday, April 21st, in the Drill Hall, James Street, Victoria Street, Westminster, 1 to 5 P.M. A paper on "Pine Apples," by Mr. H. W. Ward, will be read at three o'clock.

— **GARDENERS' ROYAL BENEVOLENT INSTITUTION.**—The Queen has been graciously pleased to give a donation of £25 in aid of the funds of the Gardeners' Royal Benevolent Institution, of which Her Majesty is the Patroness. The fifty-seventh anniversary festival of this charity, we would again remind our readers, takes place at the Hôtel Métropole on May 30th, when the Lord Chamberlain (the Earl of Lathom) will preside.

— **AN EAST END FLOWER SHOW.**—We have just been favoured with the schedule of a flower show that is to be held in the Chestnut Lodge Paddock, The Green, Stratford, E., in aid of the West Ham Hospital. Prizes are offered in numerous classes for professional gardeners, amateurs, and cottagers, and it is to be hoped that with such an excellent object in view the promoters will be rewarded by very liberal support. The exhibition will open on Wednesday, July 22nd, and will be carried over the following day. All needful particulars and schedules may be had on application to W. Wadley, Esq., Langton House, Norwich Road, Forest Gate, E.

— **WAKEFIELD PAXTON SOCIETY.**—At the ordinary weekly meeting of the members of this Society, held on the 4th inst., Mr. B. Whiteley presided, and Mr. Swire occupied the vice-chair. Notwithstanding the Easter holidays there was an average attendance. Mr. W. Hudson, gardener to W. T. Marriott, Esq., J.P., of Sandal Grange, read a seasonable and interesting paper on "Spring Wild Flowers." Mr. Hudson, who is one of the oldest and warmest supporters of the Society, dealt with his subject in a general and able manner, his remarks being rendered all the more interesting by a free introduction of suitable selections of poetry by many of our best poets. In his opening remarks he referred more particularly to the wild Daffodil or Lent Lily, which is now popular and very extensively used for Easter decorations. The numerous other wild flowers to be met with in a country ramble in the spring were also noticed, and poetical quotations given. A vote of thanks was accorded to Mr. Hudson.

— **A LUCKY GARDENER.**—Through the liberality of his employers, C. A. Smith-Ryland, Esq., and Mrs. Smith-Ryland, Mr. R. Jones, the able and energetic gardener at Barford Hill, near Warwick, has recently been enabled to spend a fortnight in the South of France around the neighbourhood of Cannes, that province of sunshine which has so often been described a veritable paradise of spring flowers. Mr. Jones was delighted with, to his English eyes, the novel aspect of the country, the stately Palm groves, lofty Bamboos, glowing masses of Cyclamens, Anemones, and Carnations, and was not a little surprised at the gigantic proportions of the cut flower trade. He also gained much valuable information in regard to the horticulture of France and the methods of culture adopted, and will doubtless be able to turn to good account the rich store of mental notes collected. In these days, when it is so necessary to be "up to date," a friendly trip into the land of a rival benefits both gardener and employer, for we want to know something of what our rivals are doing if we are to beat them in the race.

— **A TRIAL OF VIOLAS AT THE GARDENS OF THE ROYAL BOTANIC SOCIETY.**—The Council of the Royal Botanic Society has given permission for the promoters of the two last Conferences on the Viola at Birmingham to hold a trial of Violas at the gardens, and the beds in the American Garden have been prepared and planted. It is computed that as many as 3000 plants have been sent in for the purpose. Raisers and cultivators in various parts of the country have been particularly invited to send in plants of the newer varieties of the past four and five years, and especially those new of 1895-96, and in order that there should be a representation of the cream of the standard varieties of several years past for the purposes of comparison, a collection of these has been furnished by Messrs. Dobbie & Co., and planted by themselves. A representative Committee of Viola experts will be invited to inspect the plants when in full bloom, and they will in all probability make a report to the Viola Conference, which will be held in the Lecture Room of the Royal Botanic Society in August next. Mr. Sowerby has kindly undertaken that the beds of Violas shall have the necessary attention in the interval. Any communication respecting the Viola trial and Conference should be addressed to the Secretary, Mr. Richard Dean, 42, Ranelagh Road, Ealing, W., who will furnish full particulars.

— GARDENING APPOINTMENT.—Mr. W. Dodge, who has been head gardener at Beenham Court, Newbury, for a period of five and half years, leaves that place this week to take charge of Farnham Park Gardens, Bury St. Edmunds, for G. Manners, Esq.

— A BIG BANYAN TREE.—The "Ceylon Forester" gives the dimensions of a Banyan tree at the Admiralty House at Trincomalee, the girth of whose central trunk is 19 feet 6 inches at 3 feet from the ground, the full height of the tree being 66 feet 6 inches, and the circumference of the circle shaded by its foliage 541 feet.

— LINUM TRIGYNUM.—A Buffalo correspondent of an American contemporary writes that he finds this one of the best of the few window plants which flower in early winter—that is, before ordinary bulbs are brought forward. Beginning with the last of November the Linum will rival the Chinese Primrose in profusion of bloom, and if the two are placed together in a cool window where the temperature is kept above actual freezing the golden yellow flowers of the Linum will appear to admirable advantage among those of the Primroses, and both will keep on flowering until late in February.

— EUCALYPTUS GLOBULUS IN FLOWER.—I should like very much to know if any of your readers have had the Blue Gum in flower, or if it is uncommon for it to flower in this country, as I do not remember ever having seen or heard of it before. At present we have a plant in the conservatory here with five flowers on it, from which I trust we may be able to get some seeds. I may say that we have a fine specimen of the Snake plant (*Amorphophallus Rivieri*) in flower. The huge spathe is thrown up to a height of over 5½ feet, and forms a very striking object. Unfortunately it has a most objectionable smell. W. L., Perth.

— IMANTOPHYLLUM CYRTANTHIFLORUM. — This is a very valuable and floriferous spring-flowering plant of the Amaryllis family. Like the more common *Imantophyllum miniatum*, it has beautiful and attractive foliage, the leaves being long, dark green, slightly curving and distichous. The flowers are almost bell-shaped, of a very bright salmon colour, produced in large, many-flowered corymbs, on scapes from 2 to 3 feet high. This is considered a hybrid between *Clivia nobilis* and the above-mentioned *I. miniatum*. It is best grown in large pots or tubs in which it is allowed to increase and form large masses of foliage. The compost should consist of rich fibrous loam, with a liberal addition of cow manure and some sand. During the growing season plenty of water is needed, but the plants should never be allowed to dry as much as *Hippeastrums*, as they are ornamental throughout the year. The roots are fleshy, the plants form no bulbs, but increase readily by means of side shoots or offsets, which may be used for propagation. All *Imantophyllums* form ripe seeds if fertilised, and they may, therefore be propagated with the greatest ease by this means. — T. D. H. (in "Garden and Forest").

— BOLTED CABBAGES.—The extraordinary way in which Cabbages, of apparently all varieties, have bolted so generally this spring is the subject of common remark, and also the cause of much loss as well as of disappointment. Were cases few and isolated, growers for market, to whom the loss incidental to this bolting is serious, might consider they had reasonable claim for damages against seedsmen. But when the phenomenon is universal, then there is no resource but to endure the loss as an act of the season. Most earnestly is it to be hoped that in no case will this evil characteristic be perpetuated by the saving for seed of any of these bolting stocks. Far better that seed growers should suffer some of the loss also, than that there should be later put on to the market any seed product of bolting breadths. Even to the small grower of Cabbages—whether gardener or cottager—the loss resultant is material; indeed, to the gardener, who has to supply an exacting employer's table, the occurrence is indeed a cause of exceeding worry and anxiety. To many market growers the loss may mean hundreds of pounds. When the bolting is so universal it seems useless to ascribe it to bad stocks; certainly, everybody cannot have bad stocks. It would be well if some more satisfactory cause than any so far mentioned could be shown. What is not at all an uncommon result of a very hard winter seems out of place when found at the close of one of the mildest winters on record. Perhaps frost or certain low temperature exercises beneficial influence on autumn-planted Cabbages; yet, on the other hand, we see spring-sown Cabbages hearting-in perfectly under far greater warmth, so that the temperature theory hardly holds water. Some will charge the evil on too early sowing, but as Cabbage seed is almost invariably sown at exactly the same date each year, that reason will not prove satisfactory.—A. D.

— HORTICULTURAL CLUB.—The monthly dinner and conversation took place on Easter Tuesday, but owing to the holidays the attendance was not so large as usual. An interesting paper was read by Mr. F. W. Burbidge on "Evolution." The discussion afterwards on it was joined in by all present, and a vote of thanks was given to Mr. Burbidge for his paper.

— THREE HUNDRED MILLION NARCISSI BULBS.—This enormous number of bulbs is estimated to have flowered this season in the largest of the Scilly Isles, which has a circumference of only nine miles. In this connection it is said that in Holland about 90,000 *Narcissus* bulbs are needed to plant an acre, while of *Hyacinths* 100,000, of *Tulips* 115,000, and of *Crocuses* 150,000 bulbs are needed for a similar area; this is, of course, for flowering bulbs.

— INSECTS AND FLOWERS.—Some experiments made in Belgium recently tend to throw doubt on the truth of the assumption that insects are guided to flowers by the brightness of their colours. Brilliantly coloured Dahlias were covered so as to expose only the discs, and butterflies and bees sought these flowers with the same eagerness and frequency as those which were fully exposed. The conclusion by Plateau was that the insects are guided more by their sense of smell than by their perception of the bright colours.

— IMITATION FROSTED GLASS.—"F. C.," writing in a contemporary, says, "I have found the following a simple method of imitating the frosting of glass:—Take a piece of putty and soften it with linseed oil until it is very sticky, then dab the surface of the glass over with it until the desired effect is produced. To frost the glass procure some fine powdered emery or ground pumice stone. Take a small piece of plate glass and fix to a block of wood to form a handle. Wet the glass and spread the powder on it and rub with the plate glass, adding more water and powder as required. This is a slow process, and is a good test of the patience of the rubber."

— SOWING HARDY ANNUALS.—I observed recently that in the extensive flower borders in the gardens at Hackwood Park Mr. Bowerman sows his hardy annuals in good sized patches in positions according to the relative height of the plants, and for this purpose first makes a seed bed in the form of a round patch of soil about 12 inches over. The soil is of good pot quality and sandy. In such case not only do the seeds become more equally buried, but germination is more even, and when the plants are strong enough for thinning some are lifted and transplanted all the more easily because of this surface of fine soil. When that work is done more fine soil is used to assist in rooting. The established plants bloom earliest, the transplanted ones rather later, and in that way a succession is secured.—A.

— GRAPES IN CEYLON.—A small crop of Grapes was taken from the vineyard at the School of Agriculture on the 23rd February and succeeding days. The crop of about twenty-five bunches of various sizes, but none very large, was the produce from plants only eighteen months old, and which, moreover, were brought over from Australia about six months ago. The long drought and excessive heat that have been prevailing have tended to mature the Grapes rather too fast, and so interfere with their proper development and flavour, but still the outlook is not unpromising for the experiment, which is, for one thing, giving ample opportunity for the study of viticulture from a local standpoint. There is of course much to be done in the way of modifying the treatment of the Vines to suit the conditions under which they are at present growing.

— PRUNUS MUME.—The same botanical confusion exists among the species of *Prunus* as in *Pyrus* and various other genera. In the case of *Prunus* we keep up the old English names, such as Almond, Peach, Apricot, Plum, and Cherry, but it is sometimes very difficult to say to which group certain kinds belong. That under notice resembles an Almond or Peach in the colour of the bark of the young wood, in the colour of the flowers, habit of growth, and season of flowering. Professor Sargent says that it is really an Apricot. In the collection of Peaches at Kew, says a contemporary, there is a fine bush of it about 5 feet high and as far through. It has been flowering for some time past, and gives great promise of being a useful plant for spring flowering in shrubberies on lawns and even in gardens where space is restricted. The flowers of the Kew specimen are pink and often semi-double. The tree is a native of Corea, but has been cultivated for a great length of time in Japan, judging from the fact that numerous forms of it exist in Japanese gardens, differing in the colour of the flowers, the number of petals, and in habit.

— A NEW CALIFORNIAN PARK.—A millionaire of San Francisco has spent hundreds of thousands of dollars in laying out a magnificent site for a public park named Sutro Heights. He has constructed various kinds of baths in which 20,000 people can bathe. The water is brought from the Pacific in tunnels through the rocks. The park is beautifully planted, and has neither gamekeepers nor attendants. This worthy citizen is Mr. Adolphe Sutro, who is worth £2,000,000.

— THE THREE COLD DAYS OF MAY.—“A. C.,” on page 324, may shrewdly suspect the scientific probability as to the meteoric shadows causing the cold snaps of February, April, and May when he reflects that it is the clear, bright, sunny weather that gives us the severe cold in those months. Cloud and shadow generally means immunity from severe frost. When the wind is north-east it generally freezes, and when from the south-west it is generally free from frost.—S. S.

— NITRATE OF SODA.—At the Balloon Society meeting held on Tuesday, March 31st, a paper was read by Mr. Arthur Robottom, of Mincing Lane, on “The Origin, History, and Uses of Nitrate of Soda.” Discussion followed, and the opinion expressed was that the annual export from Chili of 1,300,000 tons would be largely increased as agriculturists awoke to the advantages derived from its use. Mr. Robottom contended that the general public do not know of its usefulness in the cultivation of vegetables, flowers, and fruits.

— CHIONODOXA LUCILÆ.—This early flowering bulb is more attractive than ever this year, as the clumps appear to have thrown up more flower spikes. I have it growing in several places on the rockery, where it has a good root run, which it seems to enjoy. I consider it far more showy than *Scilla sibirica*. The *Chionodoxa* flowers stand more erect, so that they can be seen easily. The outer part of the petals is a deep blue, which fades to pure white in the centre. The slender-looking spikes vary in the number of the flowers they carry, ranging from six to eighteen.—GARDENER.

— MAGNOLIA CONSPICUA.—This grand early flowering shrub has been in marvellous bloom on a west wall at Hackwood Park. It is trained to the wall longitudinally, is in entire length 36 feet, and about 9 feet in height. The flowers are borne in immense numbers, literally in thousands, and of good size and pure white. What splendid blooms are these for Easter decoration. Nothing could be purer or more effective amongst white flowers; none cheaper. The season has been so mild that protection of any sort has been needless. The summer growths are all hard spurred, hence the blooms are close to the wall, creating a perfect mass of snowy whiteness.—D.

— GARDENERS' ROYAL BENEVOLENT INSTITUTION.—The Wolverhampton and Staffordshire Auxiliary of the above Institution held a successful meeting at Lichfield recently under the presidency of the Mayor (G. Ashmall, Esq.). Mr. G. A. Bishop spoke at some length on the advantages and benefits of the Institution, Mr. G. Ambrose, Somerford Hall Gardens, also giving an appropriate address. The Committee was highly satisfied at the result of the meeting. Several of the most influential gentlemen accepted the position of stewards and promised to thoroughly canvass Lichfield for donations and subscriptions for the Institution, the Mayor becoming an annual subscriber, Mr. Warmsley, jun., life member, and a great many other promises of subscriptions were made.

CARNATION MISS JOLLIFFE.

OLD v. YOUNG PLANTS.

WE are sometimes tempted to pot one year or older plants that have flowered into larger pots, say 10-inch, with the hope that they will yield a profusion of bloom during the autumn, winter, and spring following. Plants so treated will flower freely, but they need the most careful treatment after potting until they are well established in the new soil. Even then they are not so vigorous, and do not produce such bold healthy glaucous foliage as those grown without a check from cuttings or layers. We have certainly potted old plants, and have some healthy examples of various kinds at the present time, but there is no comparison between them and young plants.

I cannot say that we have been particularly successful in rooting Carnations in heat in the spring, probably owing to an unsuitable position. Sometimes every cutting has rooted, and at others every one has gone off. We soon learned, however, the wisdom of not depending on spring-rooted plants without following a slightly different course. The bulk of the plants to be grown this year are now in 3-inch pots. These were raised by layering in a frame in August. Another batch that has practically done flowering were layered in a frame during March. These quickly root on a gentle hotbed. As soon as they are rooted they

will be lifted and potted, established in their pots, then hardened to cool treatment.

Those layered in the autumn and potted make large plants by housing time in 8 and 9-inch pots, which yield a large quantity of very fine flowers. Winter Cheer may be subjected to the same treatment.—O. M.

SPRING APHIDES.

APRIL bears evidence of the full revival of life in the vegetable world, but the appearance of buds, blossoms, and leaves is accompanied by the awakening of insect hosts to renewed activity, which is not welcomed by the farmer or gardener. Diverse are our foes in form, size, and colour—caterpillars, maggots, beetles, flies, insidious in habit, or conspicuous in their attacks; yet looking round upon them all, I suppose, none can be said to be more universally harmful than the aphid tribe. Fortunately Nature has provided many checks on their increase; many bird enemies, others also of insect race that are very effective and numerous, they, too, discover aphides where birds are unable to attack them. In their early unconscious egg state (through which, however, only a few pass) insect parasites seek them, and subsequently, whether wingless or winged, their career is one of constant peril.

Whenever a species of aphid is particularly abundant there usually appears in extra number some one or other of its natural enemies, and the year following it is often reduced to the average. Then modern research has enabled man to sweep them off in multitudes from cultivated plants. One thing, however, I notice frequently during the spring is that the aphides seem for awhile to make more progress than do their insect enemies, which are sometimes checked by the untoward influences of the season. For instance, many aphides flourish at a time easterly winds prevail that are unfavourable to other species, and as is well known their May migration not uncommonly takes place when there is a moderate breeze from that quarter, which gives support to the belief that this wind has a blighting influence. Then, again, owing to the pressure gardeners have to cope with in the spring, when much has to be done speedily, aphides are at first not observed, or if seen are left for the present.

How is the new life started amongst aphides? Formerly the supposition was that all the species were carried over from one year to another by means of eggs deposited in autumn, and hatched about April. But now we know that a large contingent of them lives through the winter in the unwinged state, some of them more or less active, as may happen, others remain torpid. The eggs are somewhat large for the size of the insects, laid on the trunks or branches of trees, probably also on fences or amongst stones, some I believe are hidden in dry leaves. Being flat, they are not easily seen, and have a peculiarity of expanding before they are hatched, the shell being elastic. Numerous aphides occur through the winter amongst grasses, Thistles, Docks, and various low plants, from which they migrate to shrubs and garden plants afterwards, a good reason why all straggling weeds should be removed in spring. Then there are also aphides about the roots of plants, and some colonies manage to hibernate under loose bark. Besides these, we have the solitary individuals, which I have called aphid queens, that hide in nooks and corners, sometimes within our houses, waiting for the warmth and moisture of spring, and the early buds, when they start a new brood. Once more, we have to thank our enemies of the ant race for tending, it is said, sundry aphides in their nests during the winter season, which they officiously bring out when they can obtain food.

On the list of aphid foes the ladybird tribe is put first by most writers on the subject, and no doubt they are of great use, especially since they commence aphid hunting early, and go on persistently through the summer, till the last brood retires to hibernate. Both larvæ and beetles eat aphides persistently, and we have upwards of twenty species, but the most useful are the little two-spotted *Coccinella bipunctata* and the larger seven-spotted *C. septempunctata*; after feeding they will now speedily deposit eggs, and a new brood will be about in May. One notable peculiarity of several species is their performance of long journeys in companies of many thousands, seeking a fresh supply of aphides; I have seen them travel miles over one district of Kent to another. There appears to be good evidence that parties of these insects have even crossed the sea (with a favouring breeze) which separates our island from the continent.

I am sorry to find that some gardeners think the brown lumpish-looking ladybird grub is a destructive insect, and so kill it should it come in their way. No doubt the rove or cocktail beetles, not at all limited in their diet, eat some of the aphides that occur amongst roots; also, I believe, the earwigs, so troublesome to us at times, remove a few aphides from leaves and flowers, for their food is not wholly vegetable. We have some good friends amongst the flies, the larvæ or maggots of which, especially of certain hawk flies, travel about spearing the aphides with a curious head apparatus.

Probably most service is done us by numerous species in the Hymenopterous or bee order, four-winged ichneumon flies, some exceedingly small, which puncture the skin of aphides, introducing an egg in each case, and thousands are destroyed by these tiny parasites, which pass rapidly through their changes and produce new broods of flies. Many of the solitary bees and wasps also provision their nests with aphides. Then due honour must be given to the beautiful but vile-smelling lace-wing fly or “golden eye” (*Chrysopa vulgaris*), which deposits stalked eggs on leaves, which look like mosses, but they produce ravenous larvæ which can eat aphides at the rate of twenty or thirty in an hour.—ENTOMOLOGIST.



ORCHIDS AT WOOLTON WOOD.

To estimate the full value and beauty of Orchids one has to see them grouped to advantage, and a house running north and south (28 feet by 15 feet) is here almost taken up with *Coelogyne cristata* and its many beautiful varieties (fig. 60). Holbrook Gaskell, Esq., in many ways a philanthropist to Woolton; is noted for his love of Orchids, and it must be especially pleasing to him to possess such a number of fine plants and to see their cultivation so thoroughly well done. There are twelve plants varying in size from 18 inches to 4 feet 6 in diameter, the largest carrying 147 spikes and the smallest twenty-eight spikes, or a total for the twelve plants of 807 spikes. As each carried four, five, six, and in some instances seven blooms, if we take on an average five blooms we get a total of 4035, which will give some idea of their beauty. Three Orchids occupy the end of the house—viz., two *Dendrobium nobile* and a fine plant of *Cypripedium villosum*, having fifty-seven flowers. This plant was granted a certificate at the last meeting of the Woolton Gardeners' Society.

Some excellent baskets of *Dendrobiums Wardianum* and *Ainsworthi* abundantly flowered were hanging from the roof. Many other good things too numerous to mention are in flower, such as *Dendrobiums*, *Oncidiums*, *Odontoglossums*, *Masdevallias*, *Cattleyas*, and *Cypripediums*, the Woolton Wood seedlings of the latter, chiefly *Lecanum* types, being bright and gay. Noticeable, too, were three grand pots of *Cypripedium insigne* yet to open.

Mr. R. Todd, the chief in command, is to be congratulated on the system of culture he adopts to bring about such good results, and he is ably assisted by his Orchid foreman, Mr. H. Corlett.—R. P. R.

NOTES ON AERIDES.

FOLLOWING up my recent notes on this genus, it may not be out of place to give a short description of a few of the better known kinds, thereby enabling amateurs and others unacquainted with the species to make a selection. As noted on page 302, but few in the genus are by any means difficult to grow, and if there is a species that forms the exception it is *A. affine*, a variable and pretty kind introduced in 1837 from Nepaul. I have seen this in a mixed house of plants suspended from the roof close to a ventilator, growing freely and flowering well annually; and I have also seen it in other places where apparently the best of treatment was in vogue, as shown by the healthy condition of other Orchids, and yet *A. affine* was not happy.

The secret of cultivating this and one or two other of the dwarf kinds lies not in any special treatment of the roots, but in allowing a plentiful supply of fresh air. The leaves must not be put on too rapidly, such progress being at the expense of solidity of texture. Grow them in a good light with abundance of air at all times when possible, and a temperature such as recommended for *Cattleyas*, and no cause of complaint will be found at flowering time; but if coddled in a steamy heat and always heavily shaded the growth will be too susceptible to checks by fluctuations of temperature and other conditions, and consequently cannot flower satisfactorily. The blossoms of *A. affine* are produced on erect racemes in early summer, and are in the typical form of a pretty shade of light rose with spots of a deeper hue. The variety *roseum* is deeper in colour than the type, while *superbum* is a larger variety and more vigorous in habit.

A much larger and very popular kind is *A. crassifolium*, and no better grower or profuse bloomer exists in the genus. Owing to the ease with which it is propagated and the number of plants frequently imported, it is always cheap and plentiful, and no collection of East Indian Orchids is complete without a few specimens. The flowers are large and elegant in carriage, the pendulous racemes springing from the axils of the leaves near the apex of growth. Each blossom is about 1½ inch across, purplish rose on the sepals and petals, the three-lobed lips of the richest purple. Another fine species is *A. crispum*, quite distinct from any other *Aerides*, and a beautiful plant when well grown. It resembles *Vanda suavis* somewhat in habit, and produces pendent racemes of flower in June that last a long time in perfection. The sepals and petals are white suffused with rose, the middle lobe of the lip bright rosy purple, lacinated, and the flowers sweetly scented. Several varieties exist, such as *Lindleyanum* and *Warneri*, and all are natives of various parts of India. They thrive best in an intermediate house.

The Fox-brush *Aerides*, *A. Fieldingi*, is a truly noble Orchid,

and perhaps a more generally grown kind than any in the genus. It makes a grand plant for exhibition when well furnished with its dark glossy foliage and closely set racemes of beautiful flowers. These latter are pendulous and elegantly curved, usually simple, but branching on strong plants. The flowers are about an inch across, the sepals and petals rosy white with spots of deep rose, the lip wholly of a clear bright rose. A pleasing companion to this is *A. Lobbi*, a fine species bearing long pendent racemes of flowers of varying shades of rose and light violet. It was named in compliment to its discoverer, Mr. T. Lobb, who found it in Moulmein when collecting for Messrs. J. Veitch & Sons about 1856. *A. maculosum* is not so generally grown, but a pretty and useful kind, bearing pendulous spikes of rosy purple spotted flowers at midsummer. It is a native of Bombay, and has been in cultivation since 1844.

The old *A. odoratum* is perhaps too well known to need describing, but much too good to be left out. Under the most ordinary condition of culture this grand Orchid is one of the most beautiful and most constant of all; while if reasonable care is taken with it there is nothing in the whole range of Orchids more exquisitely beautiful. The perfume of the blossom is strong enough to be noticed from all others; yet there is nothing unpleasant about it as some strongly scented plants, but a rich aromatic odour that of which one does not tire. No plant is more easily grown or propagated, and as it was sent to Kew nearly a century ago by Sir Joseph Banks from India it is most likely the oldest known kind. Many fine varieties of this are described, *A. odoratum majus* being a large and highly coloured form, while the beautiful *A. Lawrencei* is probably a geographical form of this old species.

A. quinquevulnerum is another fragrant and pretty species, a native of the Phillipine Islands, whence it was introduced in 1838. The racemes are densely set with flowers, and these are rosy white in ground colour, the sepals tipped with purple and spotted with crimson. *A. suavissimum*, from the Malacca Straits, is a bright and telling kind, with white sepals and petals, sometimes edged with purple, and a three-lobed yellow lip. This is useful on account of its flowering in the late summer and autumn, after most of the other kinds are over. The useful *A. virens* is very much like *odoratum* in the typical flower, but it is one of the most variable of all. Some of the varieties are poor in colour and hardly worth growing, but some others are very beautiful. The best are *grandiflorum*, *Dayanum*, and *superbum*. The type was introduced in 1841 from Java.—H. R. R.

DAFFODILS IN DUBLIN.

IN the early days of March I was pleasantly surprised on a visit to the city—our city—to note some baskets of *N. Emperor* displayed by itinerant vendors in the vicinity of Nelson's pillar. Presumably these were the overflow of a temporarily glutted market, but in their freshness, regal form, purity, and depth of colour, there was no trace of the journey they had doubtless borne from the Daffodil farms of Scilly; and that, too, in all probability via London. They were simply glorious blooms; such are, I daresay, a common sight in London streets. Judging from various notes that have recently appeared, and from personal observation, one may, I think, rightly conclude that the yellow fever, if it may be so termed, prevalent during the last decade has considerably abated. Yet it has fulfilled its mission, and fulfilled it well. Enthusiasm has sought out and lifted many charming varieties from obscurity, and the merits of the whole family are too conspicuous to allow any subsequent reaction to neutralise those past labours of love.

The departed month of March in its boisterous behaviour was not kind to the Lilies of Lent, nor has the past winter in its partiality to precocious vegetation been favourable to the more spontaneous display which greets us when a genial spring bursts the ice king's bonds, hence our experience of the passing time of Daffodils tallies with that of English growers. Perhaps we may even go back to last autumn with its tropical spell to account for some of the present shortcomings, for flowerless bulbs of some varieties have been common. Anyway, I at least, endeavour to enjoy as much of this feast of Lilies as may be vouchsafed to us; hence on one of the latter days of the wet and windy month, which for the nonce was fine, a special trip was made to the botanic gardens of Trinity College with that intent and purpose.

Inquiring at the private residence of the genial curator elicits that "he has just gone over to the gardens with S. of Newry," and that I am "to follow." So follow I did, provided with a key to the massive portals, and once inside hurried to seek the twain, who were just visible in the perspective of a long walk with their heads together. How delightful to wander in these gardens at one's own sweet will. As far as Daffodils go pretty much the same ground has been covered before and accounted for in these pages

and so far as the present display was concerned such influences of the season, as previously remarked, were visible now ; some varieties past, others passing, and others yet to come. However, I had been previously advised that this date would probably find them at their best this year, and if their best had been better in previous years it was, at least, enough for a feast.

Large masses of *Horsefieldi* were the most prominent in numbers and floriferousness, and the College garden variety of *Maximus* finer, more stately, and if possible richer in colour than ever previously seen ; whilst such varieties as *Colleen Bawn*, *Cyclamineus*, and the more chaste of the Lilies of Lent were very gratifying. All this, and more also, was noted ere I came on S. of Newry, enshrined by a low hedge, devoutly contemplating a hardy plant of insignificant proportion (the Curator had in the meantime been borne off by ailady—enthusias^t, of course). This

the opposite bank, brown and brusque in its appearance. For the first time I realise that a good brown forms a note in the harmony of colour at this season, and the tall dead stems of *Polygonums* looking warm in the sunshine do not cumber the ground without a purpose.

We have now the benefit of the Curator's company to inspect the houses, some of which have been lately rebuilt in a most substantial manner. Orchids are a comparatively strong feature amongst the many plants which have to be and are represented in the interests of science. Flowering at the time of my visit was a grand form of *Cattleya Trianae*, well contrasted in its rich colouring by a piece of *C. Trianae delicata*. *Dendrobium aggregatum* was blooming profusely, and amongst various *Cypripediums*, some in flower, *C. villosum* showed some highly varnished blooms. In cooler quarters the small and curious-looking Aroid, *Arisæma ringens* (Japan, 1864), bears a quaint and elegant hooded spathe.

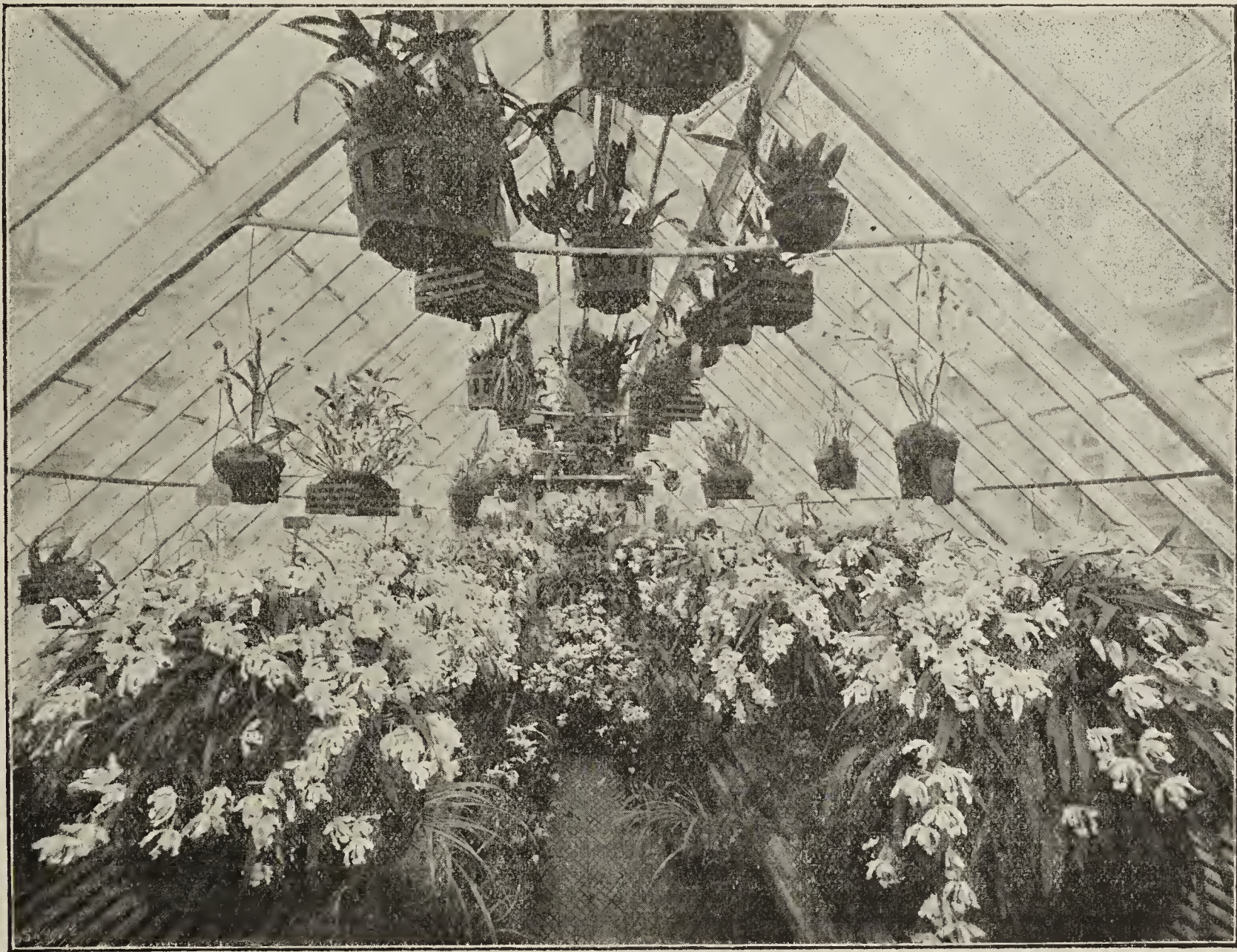


FIG. 60.—ORCHIDS AT WOOLTON WOOD.

little hardy plant, which had just opened one pearly white bloom, was the North American *Shortia galacifolia*. Short it was, and modest, too, withal ; and judging by the veteran's gaze I conclude it is rare, consequently I endeavour to work up to the same exalted enthusiasm, but it's a failure, I fear, not being up to date, and feeling it.

Yet there are plants in these gardens to please all sorts and conditions of gardeners, so a few may have a place here with the Daffodils. Conspicuous in brilliancy and numbers are *Scilla italica* and other varieties, *Primula rosea* and *Chionodoxa Luciliae*. Things common and uncommon vie with each other to carpet the whole area of the gardens. Amongst the former is a bright belt under some trees of *Pulmonaria caucasicum*, and broad stretches of *Doronicums* do similar duty. Ivies and Hollies are fine ; amongst the latter the variegated form of the Hodgins variety is both striking and handsome. Magnificent bushy *Aucubas* of the two sexes are a feature, the ladies of the tribe being abundantly decked with brilliant berries. *Prunus triloba* tacked to a wall is very beautiful in its soft rosy pink blooms. A shoal of gold fish, more red than gold, bask in the warm sunshine on the surface of the pond, and a huge dormant mass of *Gunnera scabra* is perched on

My notes, briefly as they were dotted down, are in some danger of swamping the original text. Yet ere they close, one tree, or rather two specimens seen, must be noticed. These are the Indian Paper Birch, as interesting as they were distinct in appearance with clear shining white stems, more conspicuously so than in the ordinary type of Silver Birch. The obliging guide, by making a vertical and transverse incision, removes a fragment of the delicate inner bark, and says the Lamas of Thibet use it for their correspondence. I send this fragment for our Editor to see, and perhaps he will think, as I do, that if a supply of it were forthcoming, it would in its novel character and delicate texture favourably compete with the high-class fashionable notepaper. I may add that, apparently, there would be no difficulty in procuring from medium-sized trees sheets of the orthodox size. A most innocent-looking plant is a species of *Rubus*—the Australian Lawyer, which sticketh closer than a brother. *Xanthoceras sorbifolia* is flowering for the first time here (perhaps elsewhere), and there are a hundred things, new or novel, that should have a place in these notes ; but with *Megasea Milesi*, a handsome hybrid of its order, I reluctantly close the list.—K., Dublin.



SHEFFIELD CHRYSANTHEMUM SOCIETY.

THE usual monthly meeting was held at the Society's rooms, The Museum, Orchard Street, on Wednesday, the 8th inst. The exhibits for the evening were Spiræas for both professional and amateur members. Mr. C. Scott secured the first prize in the professional class, whilst amongst the exhibitors in the amateur section Mr. W. H. Hinchcliffe secured first prize; Mr. B. Glossop second, and Mr. W. Beeley third prizes.

An invitation from W. A. Milner, Esq., J.P. (one of the Vice-Presidents) for the members of the S.C.S. to visit his residence, Totley Hall, near Sheffield, on the 18th inst., to view his valuable collection of Narcissi, which will be in full bloom about that date, was accepted, and the Secretary instructed to make the necessary arrangements for the visit, on which occasion Mr. Milner has generously offered to provide tea for the members who are present.

A letter was read from Mr. H. J. Jones, Ryecroft Nursery, Lewisham, offering to present the Society with two silver-gilt and two silver medals, to be awarded at the next exhibition to be held in the Corn Exchange in November, which were accepted.

On this evening in lieu of the usual essay, after the routine business had been attended to, the meeting devoted the remainder of the time to a social gathering, when the following friends contributed towards the harmony of the evening. Messrs. Goodison, Copley, Housley, Willford, Jarvis, Brewer jun., and Miss Stanley (the pianist). Mr. John Haigh presided, and the members enjoyed a very pleasant evening.

ROYAL HORTICULTURAL SOCIETY.

APRIL 7TH.

SCIENTIFIC COMMITTEE.—Present: Mr. J. T. Bennett-Poë (in the chair). Mr. Douglas, Rev. W. Wilks, and Rev. G. Henslow (Hon. Sec.).

Potato Perforated by a Subterranean Stem.—With reference to the specimen brought to the last meeting, it is said that the penetration was effected by the secretion of a solvent substance or ferment. This was the conclusion drawn by M. Prunet ("Rev. Gén. de Bot.," vol. ii., p. 166, 1891). On the other hand, G. J. Peirce would attribute the penetration to mechanical pressure, and not to the action of a diastatic ferment ("Bot. Zeit.," lii., 169).

Bitter and Bergamot Oranges from La Mortola.—Mr. Henslow exhibited specimens from The Marchese Hanbury. The former was raised by him from a pip of an Orange from a tree at Rome, said to have been planted by St. Dominic about A.D. 1200, which still exists at the monastery of St. Sabina. It is supposed to have been one of the earliest trees introduced into Europe. The Bitter Seville or Bigarade Orange, (*Citrus vulgaris*, *Risso*), is believed to have been the first kind cultivated. Mr. Henslow observed that the so-called "wild Orange" used for stocks in Malta bears a quite uneatable fruit of a similar kind. The Bergamot is a small Orange ($2\frac{1}{2}$ to 3 inches in diameter). The peel is smooth and thin, abounding in essential oil of a peculiar fragrance, strongly suggestive of eau de Cologne. It is cultivated at Reggio in Calabria, and is unknown wild. It first appeared in the latter part of the seventeenth century.—("Pharmacographia," page 121).

Violets.—Mr. Henslow also showed some Violets from Mentone remarkable for their large size. When dried they were $1\frac{1}{2}$ inch in diameter. They are commonly sold in the Riviera, but are mostly very deficient in scent. They may be the source of the Violet Princess of Wales, which is of French origin.

Fasciated Brussels Sprouts.—Mr. Smee sent a very remarkable specimen. The stem was cylindrical at the base, but widened out into a broad paddle-shaped and flattened extremity, covered with minute buds. He also exhibited excellent photographs of the same.

LONDON'S SPRING FLOWERS.

THIS is no new theme, as the flowers of the metropolis have formed the subject for many articles at various seasons in the *Journal of Horticulture*. It is a subject, however, quite unique in its way, as it never gets stale, and as each spring rolls round there are those amongst the readers, if I mistake not, who look with interest for some notes appertaining to the spring flowers in the metropolitan public gardens. How dull and monotonous life would be in our mighty city without these peeps at Nature, where all classes are at liberty to emerge for a space from the maddening crowd and seek, if not seclusion, at least something that is soothing to the jaded nerves and overtaxed brain in any of our public playgrounds!

So fully are the wants of the people studied that no stone is left unturned by the authorities to provide flowers at all available seasons, pleasant walks, broad stretches of green sward, and comfortable seats for the thousands who daily take advantage of these privileges. Children who know nothing of the liberty of free rural life can get some glimpse of what it is like when roaming at will, or frolicking on the green grass

in a London Park. "Green grass" did you say? Yes, and in spite of the smoke-laden atmosphere vieing in verdure with many of the richest country pastures.

THE EMBANKMENT GARDENS.

"Bring your rope in here and skip while I sit and look at the flowers," were the words overheard by the writer the other day when strolling along the Thames Embankment. It was a little girl who spoke; her face was wan and pale, and her crippled limbs supported by crutches. Though an apparently cruel fate prevented her from romping and playing like the rest of her companions, she was content to sit and watch the bright spring flowers, which had the power of bringing a ray of gladness into her sad young life. And if this child, maimed though she was, could find pleasure among the gems of the spring, why should I not go too? yea, why not? So following the example laid down, I turned in near the foot of Waterloo Bridge. The shrubs and trees were all bursting into a bright green, the turf looked fresh and inviting, and sparrows—we do not despise them in London—were hopping about here and there in quest of food.

Hyacinths in the beds of mixtures blue, white, and red, had a gay appearance, and numerous Daffodils nodded their heads at me from the edges of the shrubberies as I passed. Vehicles of all kinds were rolling along the broad Embankment, puffing steamers and grimy barges ploughed their way through the waters of Father Thames, yet in the gardens close by all seemed quiet and refreshing. One pretty arrangement was a star-shaped bed edged with red Daisies, and planted with blue Squills and yellow Daffodils. Passing out near Charing Cross I was struck with a pretty bank of mixed Hyacinths near the gate, certainly a suitable spot for such a blaze of flowers. Across the road, and into the next garden, I passed, where a display somewhat similar presented itself. Beds of single Tulips, alternately red and yellow, surrounded the monument of Sir Bartle Frere, and a little further on a statue of the famous William Tyndale seemed to be ardently gazing on a similar arrangement. The booming strike of Big Ben close by reminded me that there were other flowers at hand, and soon I found myself in

PARLIAMENT SQUARE.

Here were Hyacinths alone, each variety being massed in a large bed to itself; and how brilliant they looked in the morning sun. The grass, too, how fresh and green; not a bit like what one would expect to find in London, but the turf in Parliament Square is noted for its bright emerald hue. In one enclosure near the statues of Lord Beaconsfield and Lord Derby were beds of the pretty pink Hyacinth Gertrude, Sir H. Berkley (dark blue), Mirandolina (white), Robert Steiger (rosy pink), and the telling bright blue of Charles Dickens.

In the other enclosure the figures of Lord Palmerston and Sir Robert Peel seemed to be ruminating on the beauty of pure white alba maxima, the blush tinted spikes of Gigantea and others as they displayed their bright hues, and emitted a rich aroma from the beds below. The time-worn sacred edifice of Westminster Abbey and the highly decorated towers of the Houses of Parliament looked on—magnificent examples of human skill, both ancient and modern, no doubt—but failed to lessen in any degree the bright gems of Nature in the beds. Amid such surroundings there was ample food for retrospection, but, like Oliver Twist, I yearned for more, and, unlike him, was not denied when I arrived in

ST. JAMES' PARK,

there to find a feature not yet seen in the shape of clumps of Daffodils sending up their nodding heads from the grassy banks. After all the turf seems to be the true home of Daffodils, and under such conditions one sees them under their most pleasing aspect. The flowering Currant and double flowered Cherry were opening their blossoms in the shrubberies, and along the edges were bright little clumps of Hyacinths and Tulips. There had been no attempt made at massing the flowers in beds, nor was such necessary, as they looked much more in character dotted about here and there indiscriminately. Just a peep at the water as I crossed the bridge, and a laugh at the ducks of numerous breeds as they dodged, fought, and scrambled for the pieces of bread thrown to them.

Just then a delicious scent came wafted on the breeze. A large group of Wallflowers close by told whence it came. Had it not been for this I should not have noticed them. After pausing for another long smell I passed on beneath the Elms and Chestnuts, all assuming their spring attire and telling in silent language that their winter sleep was over. Passing on by Buckingham Palace, which by the way looks much better for its recent cleaning, and up Constitution Hill, giving only a glance at the Green Park on the right, I found myself in

HYDE PARK.

This favourite rendezvous of fashion looked very inviting in the bright April sunshine. A few horses were perambulating along the Row, but there, fashions alter so and everyone goes on wheels nowadays, at least I thought so as I gazed on the large array of pneumatics, many of them ridden by members of the fair sex clad in a variety of costume, both becoming and otherwise. But I went to see the flowers, and strolled through the dell admiring the various beauties of the spring dotted about on the banks, here, there, and everywhere. I found the principal display, however, on the Park Lane side, commencing at the Grosvenor Gate.

To stand at one end and look at the mass of colour, destitute of any erroneous clashing, yet almost bewildering in its diversity, was a spectacle not to be easily forgotten. One charming mixture was formed with

Narcissus maximus, and the light blue Hyacinth Regulus; next came a bed formed entirely of the blush white Hyacinth Grandeur à Merveille, followed by a telling mass of blue, formed of Hyacinth H. Priestly. In some instances Narcissi were planted alone, and effective beds were composed of Maximus, Emperor, Horsefieldi, and Sir Watkin. Single Tulips were also well represented, and very beautiful and striking were the plantations of Cottage Maid, Queen of the Violets, and Proserpine. One bed in which the latter variety was mixed with dark Wallflowers, looked exceptionally attractive.

Hyacinths were chiefly planted in beds two of each variety, situated opposite, and one could not refrain from remarking on the contrasting beauty they produced. Here were masses of Gigantea, followed by the dark blue of William the First, then came Madame Van der Hoop, white, and in turn again the rosy pink of Queen of Hyacinths. The light blue of Regulus looked even more delicate against the substantial pure white spikes of alba maxima, and General Havelock with its rich blue flowers had been accorded its right position side by side with Mont Blanc, the colour of which needs no description. A rich golden glow hard by portrayed the beauty of Tulip Keizer's Kroon, which has no superior for spring bedding; though of different colour the scarlet florets of La Belle Alliance were equally attractive.

Several other pretty beds were formed of Narcissus Sir Watkin and Anemones, and Chionodoxa gigantea blended admirably with Narcissus Grand Monarque. Further on the unobtrusive little blossoms of Scilla sibirica made themselves seen amongst the spikes of Narcissus rugilobus, and Narcissus Empress made a pleasing combination massed with the blue Grape Hyacinth, Muscari botryoides; while in other beds were yellow Doronicums and single Tulips. By this time, however, the Marble Arch was reached, there to pause and consider; fancy all the way from Westminster to the Marble Arch amid flowers and trees, and without passing through a street; yet some people say London is all streets. A peep at the clock told there was yet time for more, and by the assistance of a bus labelled Portland Road I soon found myself in

REGENT'S PARK.

It would be difficult to speak too highly of the beauty of the spring flowers there, or to accord too much praise to those who are responsible for the admirable way in which they have been planted to the best advantage. True, the flower garden in Regent's Park is uniquely situated, the long avenues of Elms and Chestnuts and winding pathways lending no small assistance in showing off the flowers to perfection. Every advantage has been taken of the favourable conditions, with the result that it would be difficult to find another display of bedding to equal that of Regent's Park.

There seemed to be flowers everywhere, the grassy banks presenting a medley of Hyacinths, Tulips, Daffodils, Grape Hyacinths, and Squills, that to say the least of it was perfectly charming; while the dying foliage of the Crocus and Snowdrop showed that the display had been one of long duration.

The large stone vases were everywhere gay with Wallflowers, Hyacinths, and other occupants, adding much to the general effect. Several large beds with undulating surface were ablaze with Tulips Keizer's Kroon and Proserpine; and the long narrow borders planted with alternate clumps of Hyacinths and Tulips, interspersed with the yellow foliage of the Golden Valerian, and edged with the unassuming white blossoms of Arabis alba, looked very charming. Another pleasing combination was noticed in a bank of white and blue Hyacinths, with yellow Violas dotted in between.

In some of the round beds masses of blue were formed by Hyacinth Czar Peter, while in others were similar displays of Gertrude and Gigantea. The last named Hyacinth interspersed with Czar Peter made a superb mixture, and one could not help admiring the contrast formed by Arabis alba and Hyacinth King of the Blues. A large bed of Narcissus Empress and Wallflowers, edged with Golden Valerian, came in for its share of praise, and hard by was a clump of Narcissus Horsefieldi, interspersed with blue Grape Hyacinths and surrounded by Arabis alba.

Enough, however, has been said to show that the display was unique, and amongst the bushes were noticed peeping forth the pink blossoms of Megasea crassifolia. As a fitting conclusion a joyous sound burst forth from one of the tree tops. It was a song thrush, and how sweet, how delicious! Fancy, a thrush in London! Reluctantly I withdrew, wishing my little crippled acquaintance on the Embankment could have heard it, listening till its song died away; then through the gates to the streets, 'bus, and home, with pleasant recollections of my morning's walk through a few of London's gardens.—G. H. H.

PLANTED OUT ONIONS.

THE method of planting out Onion plants raised under glass from seed with a view to securing extra fine bulbs in the autumn for exhibition seems to differ amongst leading growers. When recently conversing with Mr. W. Pope of Highclere Castle Gardens, who last autumn exhibited such a splendid collection of Onions at the Drill Hall, I learnt that whilst sowing seed in midwinter and raising plants under glass in warmth, to have them strong and early in the usual way, yet that he did not lift his dibbled out plants from the boxes in which they were growing and were hardened with balls of soil, but shook the roots free of soil, and then dibbled out in the ordinary way. He added that so far as his experience went the roots thus inserted into the soil always died soon, others being at once emitted from the base of the bulbs. That would

lead to the inference that to some extent a decided check to growth was given.

When the other day at Hackwood Park, Basingstoke, where the champion Onion grower of last year (Mr. Bowerman) is gardener. I noticed that he had but just previously put out his plants. They were fairly strong, and range from 8 to 9 inches in height. In every case these were lifted from the boxes with the aid of a trowel, thus preserving with the roots a fair sized clump of soil, and so transplanted. Water was not given the same day, but sprinkled from a rose the following day. All the plants were erect and firm, showing that they had not suffered from the transplanting. Mr. Pope mentioned that he plants in the evening, and gives a little water to each one at once.

Both growers plant as a rule about the middle of April, but Mr. Bowerman had got his plants out rather earlier this year, chiefly because the mild season had brought them on early, and the weather and soil were both so very favourable. At Hackwood also the practice prevails of planting on exactly the same portions of ground each year, with results that seem to improve each successive one. That may seem contrary to good practice as well as to experience, but it must not be forgotten that the soil is each year highly dressed with well-decayed manure, is deeply trenched, and mixed, and has a liberal dressing also of wood ashes and guano worked into the surface just before the planting is done.

To produce large Onions, even when planted at comparatively wide distances apart, high feeding is needful, and last year because of the drought liberal waterings were essential also. But still the sun heat, the moisture, and the food placed so liberally in the soil did result in producing some of the heaviest and handsomest of bulbs ever grown in the kingdom. This year planted out Onions get a remarkably good start. The plants are early, have been well exposed and hardened, fine, most favourable weather for the transplanting, and soil in perfect condition, and being got out fully a week earlier than usual have all the longer season in which to perfect themselves.

That is after all a matter of the greatest moment, as very long seasons are needed to enable huge Onion bulbs to be not only formed, but fully matured. These big bulbs ripened so well last autumn that they are much later than usual in pushing growth, although they have been some time planted. That is a tribute to the warmth of last autumn, a weather condition we may well hope to see repeated this year.—A. D.

CLIVIAS AND CALADIUMS.

THE above association may sound rather incongruous at first, combining, as it does, two classes of plants, which thrive under such extremely different conditions. They are, however, joined here because on the occasion of a recent visit to the Forest Hill Nurseries of Messrs. J. Laing & Sons both were so splendidly represented, that a few notes on some of the best of each were considered of sufficient interest to place before the readers of the *Journal of Horticulture*, instead of only jottings about the Clivias, as was intended. Not that these are the only good things in this well known horticultural establishment, in fact there are some of almost all sorts. Orchids, for example, are seen in fairly large numbers and great variety, Ferns and Palms are admirably grown, and as for Begonias—but having mentioned the name of Laing, more need not be said regarding them.

Considering that Clivias are greenhouse plants of distinctly easy culture and of beauty both when in flower and out, it is a matter for surprise that they are not much more extensively cultivated, especially perhaps by amateurs. It cannot be the price that bars the way, as several of the ordinary varieties of *C. miniata* can be purchased very reasonably. These, of course, are not equal to many of the new ones, but numbers of them are very beautiful and well worthy of attention. Not only are they extremely useful for affording diversity in the greenhouse but also for the embellishment of rooms, where with ordinary care they last in good condition for a fairly long time. For this purpose their adaptability is, in all probability, nowhere more widely recognised than in some of the towns and villages of Holland, where highly creditable plants may be seen adorning house after house at this season of the year. It is only occasionally that they are so used here, but they are undoubtedly both more serviceable and more ornamental than many of the plants utilised for the purpose. In establishments of greater pretensions, too, they might well be more frequently seen, though in most places they are represented in some manner or another. A little group of a dozen or eighteen plants makes a very imposing display, and one that almost everyone will be bound to admire.

The bold, strap-like leafage forms an admirable foil for the flowers, which in some of the newer varieties are exceptionally rich in colour, and of large size. Not only are the individual blooms large, but the heads also. Then again the segments, which were not long ago almost all pointed and narrow, are now in a considerable number of the sorts rounded and broad, overlapping so as to form a pleasing contour. Combine with these advantages the acknowledged simplicity of culture, and then find a good reason why Clivias or Imantophyllums are not far more popular. Every year brings with it improved varieties, and anyone who grows them can try his hand at raising new ones, and with good chances of success. Let a grower introduce a pure white, a blue, a purple, or a normal coloured scented one, and his labours will not go unrewarded, for either of these would give such a fillip to Clivia cultivation as it has not experienced for a goodly number of years.

We will now turn for a few moments to the varieties, and, of course, only those of the most general excellence will be named here. As the

Colonial Secretary, or, to give him his full title, the Right Hon. Joseph Chamberlain, has been brought somewhat prominently before Journal readers of late he shall head this list. The individual flowers and the umbels are very large, the deep orange colour being very attractive. This is a splendid variety. One of the richest coloured, best shaped flowers is that of Harry Laing, which possesses the additional merit of being of good habit. It is one of the gems of the collection, as also is Lady Wolverton, of which the orange-hued flowers are reflexed in a pleasing manner. With such a good name as John Laing one would expect to find something out of the common; nor is one disappointed, for Clivia John Laing is indeed superb. The colour is intense orange scarlet, the flowers and umbels large, and the shape of the whole little short of perfect. Much lighter in shade than either of the foregoing but equally as charming is Fascination; while the warlike name of Mars conveys such an idea of its colour as to render unnecessary any description in these brief notes.

Besides the half dozen that have been named there are several, such as Her Majesty, Advance, Purpurascens, Stanstead Beauty, and Vesuvius, that are all of more than average merit. In addition to all these there are the many older varieties, the naming of which would serve no useful purpose, as the majority of them are familiar to readers. Then there are several seedlings, not yet named, that promise good things, of which we must hope to see and hear more next season. So long as this firm keeps working on these flowers, as it has done of late years and is still doing, we shall continue to look for improvements year by year, and in all probability we shall see them.

Passing now to the Caladiums we come to an entirely distinct class of plants requiring essentially different treatment to grow them to the state of perfection which is attained at Stanstead Park. These plants, as everyone knows, must have a warm humid atmosphere if it is desired that the charming and extraordinary colours and variations of the leaves are to be developed to the fullest possible extent. There can be no doubt that when Caladiums are really well grown we have no plants that equal or even approach them in beauty of leafage. The collection here is one of the most up-to-date, comprising as it does almost all the novelties that are introduced. As they are shown in a large span-roofed structure the effect is very imposing, and at the same time fascinating, by reason of the immense leaves of some, the small ones of others, and the wide range and style of colouration. It is no doubt this form of exhibiting, both at home and at the various exhibitions, that has greatly tended to popularise Caladiums, though, unfortunately, they can never, by reason of the conditions under which they must be cultivated, become what might be termed plants for the million. If a hardier strain combining the present brilliancy or delicacy of hue were introduced, it would be received with acclamation as an acquisition by plantmen, both amateur and professional.

It would be an impossibility in these notes to give accurate descriptions of the many choice varieties that are at present to be seen, so it must suffice for the names of a dozen to be particularised for the benefit of those who are unable to examine for themselves. Excellent indeed were C. E. Dahle, Lymington, Madame Imbert Koechlin, James H. Laing, Rose Laing, Gaspard Crayer, Ibis Rouge, Hermione, Golden Queen, Le Nain Rouge, John Laing, and L'Automne, and while lacking these no collection can be termed complete. To those whom Fortune favours so far as to provide an opportunity of going to Forest Hill I would say, Seize the chance, as benefit and instruction are certain to accrue. Once the visitor gets there, however, let him not depart until he has seen the much that is worth inspection beyond the Clivias and the Caladiums.—TRAVELLER.

FLORAL MILLINERY.

If evidence were wanting of the vast trade done in cut flowers in what is termed the "Black Country," a stranger has only to take a stroll through the Birmingham Market Hall, the Bull Ring Market, the Arcades connecting Corporation Street, as well as the numerous florists' shops throughout the city and its immediate suburbs. What, however, I wish more particularly to draw attention to is the "floral millinery"—to coin a term—establishments of Messrs. Perkins & Sons in the Market Hall and the North-western Arcade, where daily, especially in the former place, hundreds of buttonholes are presented to view as examples of refined artistic taste in harmony of colouring and arrangements. To complete this floral picture may also be seen in their respective seasons stands of the best and newest Roses and Dahlias, besides Pelargoniums and other plants in pots. The *tout ensemble* is an exhibition in itself, and worth a long journey to behold.

The firm's enterprising proclivities are such that about two years ago a business was established in the North-western Arcade, as already mentioned, but on a somewhat different mode to the preceding, inasmuch as the Market Hall "making up" is effected at the firm's establishment at Coventry, and from which the supplies are received daily, whilst the Arcade "making up" is manipulated on the spot.

Appropos of the large display of the firm's floral "effects" in the Market Hall, one naturally wonders as to the necessary means required to furnish the whole, but a visit to the establishment at Coventry affords a ready solution to the enigma. It was most refreshing and novel to the writer, not long since, to have the privilege of witnessing the whole *modus operandi*, including the finishing touches being given by Mr. H. Perkins himself to a magnificent bridal "shower" bouquet, comprised chiefly of Orchids and Orange blossom.

The workroom is a large, well lighted, and efficiently fitted up apartment, in perfect consonance with the refined style of the particular branch of the trade.

As it would be almost superfluous to individualise the great variety of flowers grown at Coventry for the "millinery" department, we will only just remark, as worthy of particular note, that the "consumption" of *Eucharis* blooms alone at Christmastide is enormous, and requires at least the aid of two span-roof houses, each 90 feet long, filled with large plants in pots to afford a supply. Thousands of blooms of *Camellias* are afforded by a large number of immense bushes growing in the borders of two lofty span-roofed houses, where for the more ready convenience of gathering the blooms a permanent wooden path stage has been erected. Supplementary to the section of flowers already adverted to, it may be stated that a very large proportion of the supplies are obtained from the outside departments, such as Roses and Dahlias in particular, and which two subjects occupy the principal portion of the nurseries belonging to this flourishing firm.—URBANUS.

WAKEFIELD PAXTON SOCIETY.

REPORT OF THE COMMITTEE.

THE Committee, in presenting their nineteenth annual report, can only repeat what has been said on so many preceding ones—namely, that the Society is in a most flourishing condition and that thorough harmony prevails amongst its members. During the year there have been fifty ordinary meetings. At forty-nine of these a lecture or essay has been delivered. The subjects treated upon have been of a varied and interesting character, chiefly on horticulture and gardening subjects, but including a number on travel, botanical, and other scientific topics which have been highly appreciated by the members. The interest created by the latter class is instanced by the attendance of over 100 members at the last two meetings to hear Dr. Clark on "A Glimpse Down the Corridor of Time," treating of vegetation as shown us by the various geological formations, and also by the Rev. L. S. Calvert, M.A. (member of the English Alpine Club) on "Axe and Camera under the Italian Skies," in which he described his tour during the past summer from Switzerland to Italy, across the mountains, and the climbing of two new peaks.

We cannot refrain from mentioning our old friend the Rev. F. D. Horner, who never fails to respond to our request each year to lecture on some of his favourite flowers. The one this session was on the "Florists' Carnations and Picotees." The Chrysanthemum night, held on the 18th November, was a great success not equalled in any previous session in respect to the exhibition of flowers, attendance of members, or the masterly manner in which Mr. E. Molyneux of Bishops Waltham, lectured upon the culture of this fine and favoured flower. We were this year favoured with the visit of another member of the firm of Messrs. J. R. Pearson & Son, of Chilwell Nurseries, Mr. A. H. Pearson, who delivered a most able lecture on the "Cultivation of Small Fruits," showing that a subject apparently so simple as this one, laid itself out for an instructive and eloquent discourse at the hands of so fluent and experienced a horticulturist as Mr. Pearson, and who certainly maintained the good reputation of his family. Our thanks are specially due to members of various kindred societies for the delivery of essays during the year.

The members' roll now stands at 309 ordinary members against 306 last year, and one honorary member, being a net increase of three. Twenty-seven new members have been made, and twenty-four struck off by reason of death, removal from the City, &c. The average attendance at each meeting was forty-five. The utility of the library department has again been manifest, and this year exceptional demands have been made upon it. The Committee desire to express their obligations to Messrs. Molyneux, Corden, and Pitts for useful contributions to its shelves.

The accounts have been duly audited and the balance sheet submitted for approval. The Committee in concluding their report desire to note the amicable relations with kindred societies and their satisfaction at the progress some are making. They also trust that the members will continue their support and sympathy to maintain the high standard to which the Wakefield Paxton Society has attained, feeling sure it is an instrument of good to both its professional and amateur members.

THOS. TAYLOR, *President*.
GEO. W. FALLAS, } *Hon. Secs.*
T. H. MOUNTAIN, }

ANNIVERSARY DINNER.

ONE of the most successful meetings of the kind ever held by its members was that of Monday evening last, on the occasion of the nineteenth anniversary of this the original Paxton Society of the West Riding of Yorkshire. The Yorkshire Paxton Societies are composed of amateur and professional gardeners and supported by gentlemen who are interested in horticulture or other arts and sciences.

Named in commemoration of the late Sir Joseph Paxton these Societies are educational in their objects, but not severely restricted to the discussion of methods of practical gardening. Other subjects are introduced from time to time of the nature of those indicated in the annual report, which is given above, imparting variety and interest to

the proceedings of the Society. The meeting in question was attended by delegates from the Sheffield Floral and Chrysanthemum Society, also by representatives of the Paxton Societies of Rotherham, Barnsley, Batley, Bradford, Morley, Dewsbury, and Rothwell, and the large room in which the dinner was held was crowded. The chair was occupied by the President of the Society, Major Taylor, J.P., who was supported by the Mayor of Wakefield and other representatives of the ancient city—the capital of the populous West Riding of Yorkshire.

The after-dinner speeches displayed the existence of more than ordinary earnestness in the cause of horticulture, and especially in its educational aspects and the good influences that gardening had exercised, and would continue to exercise; also to be more and more appreciated throughout the community.

The proceedings were not the less enjoyed through occasional humorous references, such as the Rev. W. Chalmers' allusion to an American visitor's remarks on the Chrysanthemums at St. John's, as grown by Mr. Garnett. Pointing to a large Japanese bloom, with its drooping twisting florets, he said it reminded him of the head of a Scotch terrier, and if the gardeners went on improving the specimens much further, he guessed they would get 'em to bark! Mr. L. S. Calvert, Dewsbury, also had his turn. He is a great mountaineer, and said though he had climbed many heights, one invariably beat him, as when he came to the Wakefield meetings he could never climb the station steps and catch the 9.45; and the old lady who was present at his birth was right in her prophecy that he had come to stop, because he found he always had to stop behind his time at Wakefield.

Mr. G. W. Fallas, referring to the proceedings of the Society observed that since its establishment a thousand papers had been read or lectures given on scientific and practical subjects of interest to its members, and the discussions which followed the different essays were of the most free, searching, and instructive character; he also observed that plants and flowers brought from time to time, for illustrating subjects under treatment, were sold at the close of the meetings, and the amounts forwarded to the gardening charities. At the last meeting it was decided to send £5 to the Gardeners' Royal Benevolent Institution, making about £30 that had been contributed to the charities, including the Royal Gardeners' Orphan Fund. Mr. Fallas also spoke of the great value of the excellent library of the Paxton Society, which included works of reference, especially scientific works on horticulture and allied arts, as being of much service to the members. Altogether he was convinced the Society had been the means of doing an immense amount of good in the past, and was destined to do still more in the future, his remarks meeting with unanimous assent on the part of the large assemblage. Vocal music in the form of quartettes and glees of the most delightful character contributed materially to the enjoyable nature of the proceedings, and the meeting was in all respects most satisfactory and successful.

VIOLAS AS BEDDING PLANTS.

WHEN we see the truly grand and beautiful show these flowers make as planted by some amateurs round London, one wonders they are not more used by gardeners in the establishments of the more wealthy of the population. Their claims to favour are equal to any plants now in use and certainly exceed several. With a little knowledge of the habit of different varieties several colours may be massed together in a bed by themselves, or used as edgings if desired.

There is a certain amount of prejudice against them in the South, many persons believing they cannot be grown successfully except in Scotland. A greater mistake was never made, and last summer has done much to clear away this objection, as nothing did so well in our burning sandy soil during the tropical weather which prevailed for so long. Many plants collapsed or failed to flower, but the Viola continued to bloom freely through it all.

Violas require really very little cultivation, but will repay a little extra trouble taken in the preparation of the ground and the addition of cow manure if it can be got. Early planting is the chief secret, as they can then become thoroughly established before the hot weather sets in. Endeavour to get all in the beds by the middle of April, as if the operation is delayed longer a check will be given and their flowering season delayed. Planted now they will be in full bloom before ordinary bedding plants are ready to put out and will continue well on to October.

In choosing varieties for bedding those with a dwarf, compact habit should be used. The following to my mind are the best possible:—Ardwell Gem, a large sulphur yellow, marvellously free, and throwing the flowers well above the foliage; Goldfinch, yellow edged with pale purple; Duchess of Fife, light primrose edged with purple; and White Duchess, a pure white with thin purple edge. The last three are sports from Ardwell Gem, and identical in habit, and so far have proved to be entirely free from disease or mildew. Countess of Hopetown is a grand pure white, but suffers very much from mildew towards the autumn; Duchess of Sutherland and Wm. Sheil are good free bloomers of bluish mauve; Blue Gown, a perfect gem; Sweet Lavender, several shades lighter and very free; Lord Elcho, a rich deep yellow, flowering freely, but rather small; Archie Grant is a grand flower, deep indigo blue, but gets straggling towards the autumn; and Border Witch will prove a good addition where striped flowers are liked when it becomes cheaper.—
VIOLA.

GRAFTING FRUIT TREES.

THE woodcut, fig. 61, depicts what I consider an improved form of grafting. The method of preparing the scion is shown at the right of the engraving. Each graft ought to be about 4 inches long, and have four buds. A thin piece of wood, as well as the bark, is cut upwards, sufficiently long to cross over the crown of the branch to be grafted, half an inch of it being bent, to be slipped under the bark on the opposite side of branch. This method of grafting can be applied to trees having branches about an inch in diameter, rather less than more. In preparing the stock branch, the one to be operated on ought to be severed rather close to the main branch, only leaving about 2 inches

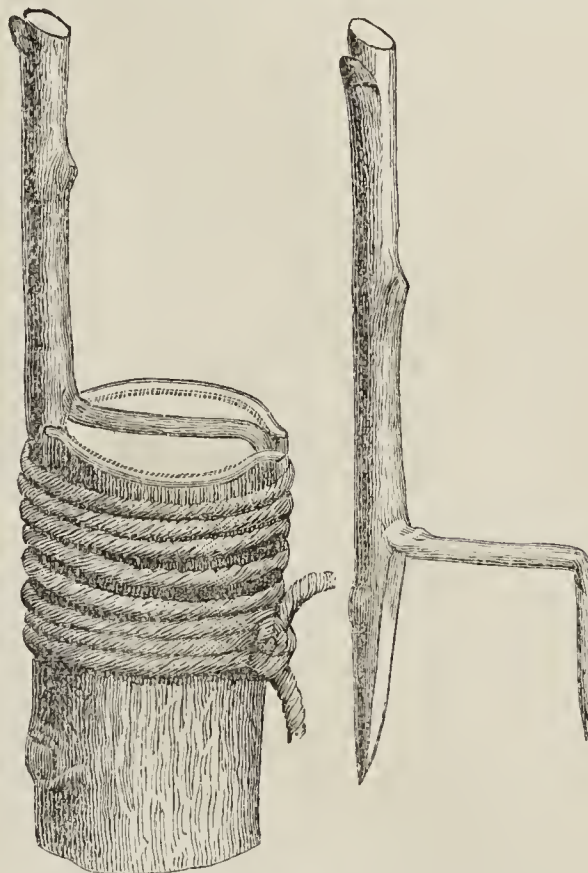


FIG. 61.—AN UNCOMMON MODE OF GRAFTING.

The cuts must, of course, be made to correspond as nearly as possible with those on the scion; or this method can be applied to young trees as stocks where they are too large for splice grafting. This method of grafting gives stability to the work, and the grafts are not so liable to be blown out, as in some others. The system is much appreciated in Shropshire by amateurs who have time on hand for the work, and has proved very successful. Probably many people do not practise it on account of its requiring more time to prepare the scions, and also the stocks, than older styles; but in my opinion it only requires a little practice and patience to become experts in the work.—ROBT. SMITH, *Lecturer on Horticulture to the Shropshire County Council.*

ROYAL BOTANIC SOCIETY.

APRIL 14TH AND 15TH.

ON Tuesday and Wednesday there was held in the conservatory of this Society in Regent's Park a show of Daffodils and other flowers. So far as quality of Daffodils was concerned there was nothing to grumble at, and the way the trade supported the show was highly creditable to all concerned; but in the amateurs' section the same enthusiasm was not apparent, the classes being very poorly filled—in fact, in the majority of them there was only one exhibit. This is regrettable, and does not say very much for the popularity of these beautiful flowers. It is hoped that at similar shows in a future season the competition will be very much keener. The arrangement of the amateurs' section was by no means praiseworthy, and the judges had the greatest difficulty in making their awards on account of the classes being so very much mixed. In connection with the show a conference was held, particulars of which will be found below.

In the class for a collection of Daffodils, for which Messrs. Barr and Son offered a silver cup, there were only two competitors, and neither of these being quite up to the mark the first prize and cup were withheld. Miss Margaret B. Crawford, Ardlamont, N.B., took the second position with a well diversified collection. Amongst the many were M. J. Berkeley, Edward Leeds, Golden Spur, Samson, Glory of Leyden, bicolor grandis and Horsefieldi, P. R. Barr, Princeps, Lady Grosvenor, cernuus pulcher, J. B. M. Camm, Sir Watkin, Duchess of Westminster, C. J. Backhouse, Poeticus in variety, Leedsi elegans, and Albicans. Miss K. Spurrell, Manor House, Norwich, was third.

The flowers in this exhibit were arranged rather too thinly, and the general appearance was somewhat detracted from thereby.

There was apparently only one exhibitor in the class for eighteen varieties of Daffodils of the large Trumpet section. Dr. Crawford, Glasgow, secured the premier award. His flowers were of splendid quality, and finely coloured. For eighteen distinct varieties of the medium-cupped section R. Maitland, Esq., Wardour Lodge, Sunningdale, was the first prizewinner. Amongst the varieties were Autocrat, Mabel Cowan, rugulosus, James Bateman, Flora Wilson, Nelsoni major, and Mrs. Langtry. For ten varieties of the same section Mrs. G. Hayden, Hatfield Vicarage, Doncaster, the only competitor, received the premier award, the same exhibitor occupying a like position for six varieties of the small-cupped type.

The first prize for six distinct double Daffodils went to Miss Crawford with some good flowers. This exhibitor was again successful for twenty distinct Daffodils with flowers of good quality, Dr. Crawford being second. The same exhibitors mentioned above shared the honours in the class for the best flowers in the show.

Six tables of Daffodils arranged with other foliage were entered and the graceful exhibit of Mr. A. F. Youens was placed first, Mrs. W. Mole second, and Mr. J. Prewett third. For a bouquet of Daffodils Mr. A. F. Youens was first, Mrs. W. Green, jun., Harold Wood, second, and Mrs. W. Mole third. Miss Hudson, Gunnersbury House, Acton, was first for a bowl of cut Daffodils, Mrs. W. Mole second, and Mr. J. Prewett third.

In the class for twelve Amaryllis Mr. Perkins, gardener to the Hon. Mr. Smith, Henley-on-Thames, was placed first with some finely grown plants; Mr. J. Douglas, Great Gearies, taking the second position. Mr. Jas. Douglas was first with a collection of Cinerarias, showing well flowered specimens. The same exhibitor was also first with twelve Auriculas, showing a collection comprised chiefly of distinctly marked seedlings. Mr. W. Rumsey was the only exhibitor of six Roses in pots, and was awarded the first prize for Madame Hoste, L'Idéal, The Queen, Magna Charta, and Niphetos.

In the miscellaneous section Mr. T. S. Ware, Hale Farm Nurseries, Tottenham, exhibited a very handsome group of Daffodils, representing the majority of the sections. Masses were staged of such varieties as Sir Watkin, Leedsi, Emperor, bicolor grandis, Horsefieldi, Nelsoni major, Barri conspicua, Princess Mary of Cambridge, Poeticus and several others. Almost all the flowers were of fine quality, and the colours were well developed. Mr. W. J. Caparn, Oundle, sent a few Irises.

Comprising magnificent flowers, both in respect of size, substance, and colouration, was the group of Daffodils from Messrs. Barr & Son, King Street, Covent Garden. The blooms were done up in spray form, and shown in bottles. The arrangement, too, of the various colours was highly creditable, and showed the flowers off to the best advantage. Prominent amongst the many were Weardale Perfection, Sir Watkin, bicolor, Horsefieldi, Emperor, J. G. Baker, Madame de Graaff, Glory of Leyden, Maximus, Lady Grosvenor, various form of Poeticus, Harrison Weir, Dorothy E. Wemys, Barri conspicua, and several others.

Messrs. J. Veitch & Sons, Royal Exotic Nursery, Chelsea, showed a handsome group. The flowers were very fine in quality, being of good size and rich and clear in colour. Maximus, Emperor, Leedsi, Minnie Hume, bicolor Empress, Rossini, bicolor grandis, Mrs. W. T. Ware, incomparabilis Figaro, Shirley Hibberd, Glory of Leyden, J. B. M. Camm, Golden Plover, Little Gem, Poeticus in variety, Polyanthus varieties, Barri conspicua, Barri Flora Wilson, Burbidgei, and cernuus pulcher amongst others were the most beautiful.

The Roses in pots and in a cut state from Mr. W. Rumsey, Joyning's Nurseries, Waltham Cross, were highly creditable. The varieties noticed were The Bride, Victor Verdier, Niphetos, Ulrich Brunner, Madame Hoste, Margaret Dickson, Maréchal Niel, Silver Queen, Madame Montet, and Sunset. Mr. John Walker, Thame, Oxon, staged four boxes of cut Roses in charming condition. These were Maréchal Niel, Niphetos, Gloire de Dijon, Lamarque, W. A. Richardson, and a few others.

Mr. Frank Cant, Colchester, was represented by a superb exhibit of cut Roses, in which both variety and shapely flowers were conspicuous. Very striking were Madame Victor Verdier, Ethel Brownlow, Princess of Wales, Ulrich Brunner, Francisca Kruger, The Bride, Innocente Pirola, Général Jacqueminot, Captain Christy, Niphetos, Ernest Metz, Caroline Testout, Duke of Edinburgh, Mrs. John Laing, Fisher Holmes, Rubens, and others.

The hardy flowers staged by Mr. T. S. Ware, Tottenham, were very attractive, and amidst the great variety were noticed Primulas Sieboldi rosea striata, Ware's White, General Gordon, Admiration, and P. Cashmeriana, Adonis vernalis, Trillium grandiflorum, Megasea cordifolia purpurea, Spiraea multiflora compacta, Ranunculus amplexicaulis, Fritillaria imperialis lutea, Polygonatum virginicum, Saxifraga Haworthi, Orchises longicornus, and pallens, with Irises in variety. Mr. Ware also sent a striking collection of Begonias, mainly double, and amongst others were noticed Goliath, Pride of Bexley, Samuel Pope, Bexley Gem, and Miss Dora Richards. The plants were tastefully arranged with Palms and Ferns, and were much admired.

Messrs. B. S. Williams & Son, Upper Holloway, set up a pleasing collecting of flowering plants, interspersed with Palms and Ferns, and consisting chiefly of Clivias Verschaffelti, Baroness Schröder, Firefly, Atro-sanguinea, and Martha Reimers; Hippeastrums, Dr. Masters, Morning Star, Holloway Belle, Red Prince, Distinction, Empress of India, Mr. Morley, Lady Dorington, and Crown Prince of Germany, together with a number of plants of Boronia megastigma. Floral certificates were awarded to Begonias Miss Alice Sparrow and

Miss Lily Sawford from Mr. T. S. Ware, and to Narcissus Cormoran from the Rev. C. Wolley Dod.

DAFFODIL CONFERENCE.

The Conference was held in the Museum, a moderate attendance being present. The chair was taken by Mr. J. G. Baker, of the Herbarium, Kew, who commenced the proceedings by presenting Mr. F. W. Burbidge with a silver cup awarded to him by Messrs. Barr and Son in recognition of the valuable assistance rendered in popularising the Daffodil. The Chairman spoke briefly but in highly eulogistic terms of Mr. Burbidge's work amongst these popular flowers, in which he has taken so great an interest, and introduced him to the audience as the reader of the first paper, in which he dealt with the past, present, and future of the Narcissi.

In the opening passages of his highly interesting address, Mr. Burbidge dwelt on the past history of the Narcissus, stating the flower had for ages been popular, as poets from the time of Homer down to Tennyson of our own day had spoken of it in their writings. There was every reason also to believe that in past ages it was considered of more than ordinary value, for in the museums at Cairo, Kew, and elsewhere, there are specimens of Narcissi which had been taken from mummy cases. The flowers must have been placed there long before the Christian Era, from which it is practically certain that the Narcissus was grown and valued between 3000 and 4000 years ago.

It had been gathered from old writings in Eastern and Hindustani languages that the Narcissus was spoken of in connection with the eyes, just as other flowers are connected with the various features. They had reasons, however, for believing that Narcissus poeticus, as we know it, was not the Narcissus spoken of by the early Grecian poets as is often supposed, and it is, therefore, somewhat of a usurper, as the Bunch or Cluster-flowered Narcissus was the one found in Italy, and it is to this flower which the ancient writers allude. The Lent Lily or common Daffodil, continued the essayist, was the only one native to the British Islands, and as many others have been naturalised, it is often a matter for wonder as to where they came from. As Cornwall and the Scilly Islands are famous for Daffodils, and were once noted for their mineral productions of tin, it is highly probable that the early traders from Southern Europe when they came there for the purpose of barter brought with them the products of their own lands in the shape of Narcissus bulbs, and in exchange took back mineral; and though the mining industry of those districts had long since died out, those early tradings had assisted in building up the enormous flower trade that is carried on there at the present day.

No other soil in the kingdom suits Narcissi so well as that of the Scilly Islands, this accounting in no small degree for the large traffic in these flowers. In Cornwall, also, the Narcissus is one of the most profitable crops of the day, and those engaged in it, like the sheep farmers of the Colonies, gain a twofold profit, for whereas the latter produce and export both wool and mutton, the Narcissus growers reap their harvest from both bulbs and flowers.

It is interesting also, remarked Mr. Burbidge, to note that the working and artisan classes are the chief supporters of this great industry, encouraging, as they do, the flower by being purchasers of the bulk of the produce; therefore the successful Narcissus grower is in his way a minister by being the means of bringing freshness and beauty into the homes of the working population. The Narcissus, he continued, was truly a democratic flower, and as such we love it; for, as Parkinson puts it, it is admired as much in an artisan's garden as that of a duke. A Greek writer has said that we should take great care of the beautiful, as the good and true will take care of itself.

The cultivation of Narcissi may be looked on as the salvation of many an agriculturist, for whereas an acre of Wheat may be valued at from £20 to £30, a similar area of Narcissi might be worth anything, from £50 to £500, according to the varieties; but he was not prepared to say what the value of an acre of the best Narcissi might be worth.

Mr. Burbidge stated that twelve months ago he was in the Scilly Isles, and was astonished beyond explanation at the beauty and freshness which the large areas of Narcissi presented, and to give an idea of the extent of the industry he added that no less than 27 tons of flowers were landed at Penzance on one day in March last. As to the growth of the traffic, in 1885 65 tons were dispatched during the season; in 1886, 85 tons; in 1887, 100 tons; in 1888, 188 tons; in 1889, 198 tons, and during the past five or six years the last mentioned figures had been greatly exceeded. Bulbs have also been sold in large quantities, and as they can be grown in all parts of Great Britain and Ireland, much may be expected of the Narcissus in the future.

Speaking of the future of this popular flower, the essayist said that to prophesy might be risky, but still we may observe the shadows, and as the Narcissus is early, hardy, shapely, showy, increases with great rapidity, and will grow in almost all positions, much might be expected of it. To grow them well shelter is necessary. They will grow near the sea or away from it, but he considered the future of the Narcissus consisted chiefly in obtaining a more rigid selection and getting better varieties.

There are twenty or thirty species of Narcissus now in cultivation, but out of these there were only three that assisted us much for general garden use—namely, the common pseudo-Narcissus in all its forms, poeticus in all its forms, and the varieties of incomparabilis which are produced by crossing the above; that all these come true from seeds and hybridise with each other has been proved over and over again by the Rev. G. H. Engleheart and numerous other raisers. What we want now that has not been obtained, continued Mr. Burbidge, are finer form and

greater substance; a golden flower of the calibre of *N. maximus* that grows and flowers freely; a large white starry *Narcissus* like the *Eucharis* Lily, for instance; a variety of *Cyclamineus* with several flowers on a stalk; and tricolors as well as bicolors. The purest varieties are obtained from *N. princeps* and *N. poetarum*, but good forms and colour may be obtained by crossing the wild Daffodils of France and Spain with our cultivated *Narcissus poeticus*.

The experiments made in crossing the best of the garden varieties have been attended with poor results, whilst the tendency of wild flowers is to improve under garden cultivation. There is a threefold object to be attained by those engaged in the hybridisation of *Narcissi*, and raising new varieties; firstly, it is an interesting and highly delightful occupation; secondly, it is a great aid in advancing the science and art of horticulture; and thirdly, it is a study which is financially remunerative. Mr. Burbidge then went on to deal with the various systems of hybridisation, and in conclusion called the attention of the audience to the long and varied programme that lay before them respecting the papers that were to follow. British gardens, the essayist fitly concluded, are full of Daffodil beauty, and make living pictures worthy of any painter's brush, while at such places as Kew and our public parks, we have displays of these popular flowers presented to us that make our country more beautiful to see.

At the conclusion of Mr. Burbidge's paper the Chairman made a few supplementary remarks, stating that with regard to the past history of the *Narcissus* there was no book at present which dealt adequately with it, and as no one was better acquainted with the past of the *Narcissus* than Mr. Burbidge, he would suggest that in the event of his bringing out a new edition of his book on the *Narcissus*, he would add to it by giving a more complete and detailed account of the past history of the family. He thought Mr. Burbidge was drawing it rather fine when he said there were only three of the species of the *Narcissus* worthy of extensive cultivation, as *N. odoratus* was a very fine one, and he would like to call attention to the striking mass of it now in flower at Kew; then, again, there was *N. jonquilla*, which he thought was also worthy of extensive cultivation.

The Rev. E. S. Bourne then followed with an instructive paper on "The Cultivation of *Narcissi* by an Amateur." He commenced by stating that his paper was only intended for beginners, to whom he intended imparting an account of his own experience. There were five main points connected with successful culture—namely, soil and situation, time of planting, supply of nourishment, time of lifting, and the choice of varieties. In dealing with the first, the essayist said that a good drainage was absolutely necessary, for though *Narcissi* like plenty of moisture, they resented a stagnant wet condition.

In regard to soil, though a strong loam was suitable for some varieties, generally speaking a medium compost was the best, with a good admixture of gritty matter. He then gave in detail his method of making the beds, which he said were long, about 4 feet wide and 2½ to 3 feet deep. The situation, generally speaking, should be one that is shaded during the hottest part of the day, and should have a slope of 3 or 4 inches towards the sun. He found that the white trumpet section does best where the roots have to fight for their maintenance, a position near shrubberies, where there is an abundance of tree roots, being suitable for them.

As to the time of planting all the small-crowned varieties should be in the ground early in August, and all should be got in before the end of that month. *Narcissi* do not like a loose soil, so that if the beds are newly made the compost should be pressed firmly down, and be in a moist though not sodden condition at planting time. He generally covered the bulbs with 2½ or 3 inches of soil, and in the case of the choicest varieties placed a little coarse silver sand under and above each bulb. The bulbs generally should be placed wide enough apart to allow for hoeing between them. The question of supplying nourishment was one that required much consideration, and he should advise beginners to be very careful in the use of manure. Strong growing kinds are benefited by manure, which should take the form of thoroughly decayed horse manure applied as a mulch in the autumn. He found that *Narcissus maximus* thrived best if planted deeply, and he always covered the bulbs to a depth of 6 inches. Generally speaking white Daffodils do not appreciate manure, and if a good yellow loam is used none is required.

Narcissi of good constitution, he continued, may be left two or three years undisturbed, but those weaker and uncertain are benefited by being lifted year by year. It is better to perform this operation a little too early than too late, because if the bulbs are lifted after the new roots are emitted these die, much to the detriment of the plant, while if lifted rather too early they are little the worse. Mr. Bourne brought his very practical paper to a close by reading several lists of varieties, classified according to constitution and price, and most useful to beginners, also adding a few notes on the culture of *Narcissi* in cold frames.

Mr. M. J. Caparn dealt with the *Narcissus* from an artist's point of view, tracing the history of the flower (in illustration of which he showed numerous diagrams) from so early a date as 1480, taken from a work published at Rome about that time, where the Daffodil was treated as a thing of medicine. He followed by showing fac-similes of illustrations of the flower from books dated 1543, 1570, to "Gerarde's Herbal" in 1597, John Parkinson's work in 1629, and from then to modern times. There was a period, said the essayist, about the years 1837 to 1840, when no mention of the Daffodil was made or drawing given in any magazine. There appears to have been a time when they had the Art without the Daffodils, followed by a period when

the flowers were forthcoming, and the Art was absent. After dwelling at some length on the *Narcissus* in the hands of the artist, both painter, engraver, and colour printer, Mr. Caparn concluded by saying that the Daffodil in Art is no success from an artist's point of view.

Mr. J. D. Pearson contributed a paper on the Daffodil as an exhibition and decorative flower, giving notes on method of treatment of exhibition blooms, cutting, packing, and arrangement, suitable vases, house decoration, and the pleasures and pains of colour to the æsthetic mind. For exhibition purposes, Mr. Pearson said that flowers might be out when the buds are opening four or five days before the show, and kept in a cool room, shaded if necessary. He found that flowers are much better if cut and placed in water a short time before they are packed. They should be arranged in as natural and "nodding" a form as possible, though flowers were often seen in an upright and stiff condition, and no one, said Mr. Pearson, who shows Daffodils should consider trouble.

As a cut flower he thought the sameness in colour was an advantage, as there could be no erroneous clashing, and he considered plain earthenware vases to be better than glass for the purpose of decoration. The flowers should be placed in loosely and artistically, and arranged only with their own foliage. Mr. Pearson dealt exhaustively with the *Narcissus* as a decorative flower, and concluded by speaking highly of them for the personal adornment of ladies, for which purpose he said no placing or making up is necessary.

Miss Marie Lowe spoke of the Daffodil in decoration, illustrated by flowers and paintings. She said she had been struck, in looking over old pictures, to find so few Daffodils portrayed, and she could not understand why the flower had been left out in the past and so desecrated in the present; further, she said, the history of the Daffodil in design has yet to be created, as, so far as she had been able to ascertain, no design of the flower is used by manufacturers of wall papers, lace curtains, or silk patterns, and she thought the departure might be taken up to advantage.

Flowers generally, said Miss Lowe, are often badly arranged, and Daffodils are no exception. Flowers should form a part of the furniture of the room they are meant to adorn, and Daffodils should be used only with their own foliage. She said everyone was aware that decorative arrangements in this country are much inferior to those of the Continent, and added that Daffodils should always be placed in plain vases, and never in those having flowers painted on them, as this detracted much from the effect.

In the absence of Mr. W. Robinson his paper on the *Narcissi* and their artistic use for planting in grass was read by the Secretary, Mr. J. B. Sowerby. The essayist contended that the *Narcissus* was not only a garden flower but one that gives beauty to woods, and there are numerous ways of growing them besides in gardens. In many places *Narcissi* grow well in grass, their hardiness making them well able to take care of themselves. Eight years ago he, Mr. Robinson, planted a number of *Narcissi* in grass, and these have far exceeded his expectations. They are admirably adapted for planting on lawns, as the leaves ripen and disappear before mowing time. The little Tenby Daffodil is sturdy, pretty, and never fails, but as to kinds, those we may naturalise are almost without limit. The thing to fear, however, is overdoing it, as it is as easy to plant in ugly ways as in pretty ways. The regular garden way of planting is no doubt all right in the garden but useless in the grass, for the latter wide breadths of grass should be left without any flowers. The above are but a few of the interesting points contained in Mr. Robinson's able contribution.

Mr. Sowerby also read Dr. Crawford's paper on basal rot and the conditions necessary for healthy culture of the Daffodil. This disease, said the essayist, was one of the greatest difficulties in *Narcissus* culture, and the cause of the loss of many plants. The first sign of the disease was brown markings on the bulbs, stunting and clubbing of the foliage, which dies down before the leaves of unaffected bulbs. He had determined that a microbe caused the disease in all bulbs affected with basal rot. These microbes are absent at a depth below the range of cultivation, and the conclusion is that deep planting and annual lifting are the best preventives; soils that have lain a long time unused are preferable for planting; and the beds in the winter should be sprinkled with sulphate of potash. In planting in grass the grass seeds should be sown one season and the bulbs planted the next, this being an antidote against the disease. If bulbs are allowed to lie in heavily manured ground throughout the summer the results would be disastrous. The disease is caused by an active microbe called *Pensillium* and all injurious agencies cause the plants to fall a prey to it. As a preventive grass is considered to be the best crop for bulbs, deep planting is advised and phosphate with potash should be used as a plant food.

As lack of time prohibited the reading of the papers compiled by Messrs. C. W. Cowan, C. Stuart, and J. Allen, a hearty vote of thanks to the Chairman for presiding brought the Conference to a close.

SPRING SHOWS.

LIVERPOOL.—APRIL 8TH AND 9TH.

ALTHOUGH the Committee had been unfortunate in only being able to secure St. George's Hall on the above dates for their spring show, which was considered late, yet visitors were more than agreeably surprised at the large number of entries, and the bright and attractive appearance of the beautiful Hall, which when viewed from the handsome and commodious galleries presented a floral treat such as one has

rarely seen in Liverpool. It is a matter of some regret that the trade was not better represented, but although lacking in quantity, the quality was of unusual merit, notably the superb stand of *Narcissus* which Messrs. Dicksons, Limited, Chester, exhibited. Space will not permit of individual mention, but *Glory of Leyden* seemed so distinctly ahead that it merited recognition. Then that would sufficiently apply to the grand table of *Amaryllis* staged by Messrs. R. P. Ker & Sons, Aigburth Nursery, splendid examples of good culture, bold in habit, the colours ranging from almost pure white through all intermediate shades to the deepest crimson, and justified the high encomiums passed on them by the visitors. A few sterling seedling *Clivias*, and a pleasing display of *Boronias* were also exhibited by the same firm. Mr. H. Middlehurst, Manchester Street, Liverpool, had a handsome group of *Lilium Harrisii* and various *Spiræas*, and Mr. W. Mason, Oxtou, a table of miscellaneous plants. All the above were granted certificates. All the amateurs' exhibits were of much excellence, and showed high cultural skill throughout. It is much to be regretted that the public were not seen in larger numbers, and, as at all past spring exhibitions, it is almost certain to be a failure financially.

In the open class for a group of miscellaneous foliage and flowering plants arranged for effect in a space 12 feet by 10 feet, there were only two entries, Mr. J. Bounds, gardener to A. L. Jones, Esq., Oaklands, Aigburth, being accorded premier honours with a bright and effective arrangement. Mr. J. Bracegirdle, gardener to W. H. Watts, Esq., Elm Hall, Wavertree, was placed second. His group, although containing fewer flowering plants, showed much skill in arrangement. Six staged in the class for ten hardy herbaceous and bulbous plants, Mr. T. Ankers, gardener to W. B. Bowring, Esq., Grassendale, being placed first with well-flowered plants of *Spiræas*, *Solomon's Seal*, and *Narcissi*. Mr. Joseph Harrison, gardener to Mrs. W. S. Bateson, Elmhurst, Aigburth, was second with good *Dielytia*, *Spiræa*, and *Solomon's Seal*. Mr. J. Heaton, gardener to R. P. Houston, Esq., M.P., The Lawn, Aigburth, won with a pan of *Lily of the Valley*.

Although late in the season the *Hyacinths* and *Tulips* made an imposing display, Mr. T. Wilson, gardener to O. H. Williams, Esq., Fulwood Park, Aigburth, winning the class for eighteen with *Charles Dickens* (red), *Ida, La Grandesse*, *King of the Blues*, *Lord Derby*, *Mont Blanc*, *La Deuil*, *Lord Macauley*, *Fabiola*, *Madame Plimsoll*, *Koh-i-noor*, *Czar Peter*, *Cardinal Wiseman*, *Marchioness of Lorne*, *Von Schiller*, *Queen of the Blues*, *Orangeboven*, and *Queen of the Yellows*. Mr. Charles Waring, gardener to Mrs. Jno. Aikin, Prince's Park, was a fair second. The latter won for twelve *Hyacinths*, distinct, having *Koh-i-noor*, *Von Schiller*, and *Queen of the Blues* as his best. The second position fell to Mr. H. M. Coates, gardener to Jos. Smith, Esq., Newstead, Wavertree, with a moderate selection. Mr. J. V. Thomson, gardener to W. P. Sinclair, Esq., Prince's Park, won with six. The pick of the *Hyacinths* was certainly in the class devoted to six pots, three bulbs in a pot, seven excellent collections being put up, Mr. J. McColl, gardener to J. W. Hughes, Esq., New Heys, Allerton, winning with massive, bright-coloured examples of *Florence Nightingale*, *King of the Blues*, *Ida, Grandeur à Merveille*, *La Grandesse*, and *King of the Blues*.

For twelve *Tulips*, Mr. H. Holford, gardener to C. McIvor, Esq., Beechfield, Heswell, took the lead, *Keizer's Kroon*, *Princess Marianne*, *Moucheron*, and *Duchess of Parma* being good. Mr. J. V. Thomson won with a splendid six singles; and Mr. J. Williams, gardener to C. J. Proctor, Esq., Boscobel, Birkenhead, for six doubles.

A new addition to this show was the class for the best arranged and most attractive basket of plants, not to exceed 4 feet; Mr. E. Taylor, gardener to E. Pryor, Esq., Royston, Aigburth, winning with one of much merit, but perhaps a trifle crowded. Mr. Cromwell, gardener to T. Sutton Timmis, Esq., Cleveley, Allerton, was an excellent second. The prizes for three and two *Amaryllis* were worthily won by Mr. T. Johnson, gardener to G. W. Moss, Esq., The Beech, Aigburth. A magnificently flowered *Dendrobium nobile* won for Mr. W. Wilson, gardener to H. Cunningham, Esq., the prize for one stove plant in bloom, Mr. Cromwell winning with a choice well-flowered specimen of *Clivia miniata superba* for single greenhouse plant in bloom. *Orchids*, although not numerous, were fine in quality, Mr. J. Bracegirdle worthily winning for three with a grand *Angræcum sesquipedale*, and *Dendrobiums Ainsworthii* and *nobile Cooksonii*. Mr. E. Taylor second. The latter won for two cool *Orchids* with excellent *Lycaste Skinneri* and *Cattleya citrina*, and for a single plant with *Dendrobium thysiflorum*; also for two forced hardy plants and one *Rhododendron*.

Mr. Cromwell was well to the front in the class for four *Ferns*, two *Mignonette*, three *Azaleas* distinct, and three *Palms*. Mr. G. Eaton, gardener to W. H. Shirley, Allerton House; and Mr. Pattinson, gardener to S. J. Waring, Esq., jun., Palmyre, Aigburth, with a single *Fern* and *Palm*. Mr. T. Ankers won with four capital *Azaleas* in 8-inch pots, six forced hardy plants, a plant of *Clematis Princess of Wales* (claiming particular attention), and six table plants. Mr. J. Harrison took classes for *Lily of the Valley* and *Cyclamens*, the latter containing the finest plants that have ever been seen in the Hall. The *Primulas* shown by Mr. A. Lewis, gardener to Miss Fowler; and *Cinerarias* by Mr. McFall, gardener to E. C. Leventen, Esq., Oakhill, Roby, reflected much credit. Prizes for *Azalea mollis* and *Callas* fell to Mr. Field, gardener to J. H. Wilson, Esq., and Mr. Geo. Eaton; single *Azalea* to Mr. W. Wilson, one bouquet to Mr. J. Williams; six pots of *Freesias* to Mr. H. Holford. Five charming boxes of *Roses*, arranged for effect, were staged; Messrs. P. Greene (gardener to T. Gee, Esq.), J. Stephenson (gardener to Exors F. R. Leyland, Esq., Woolton Hall), and H. Holford being the prizewinners. The Chairman, Secretary, and Committee worked with a will to make the show thoroughly attractive.

EDINBURGH.—APRIL 8TH AND 9TH.

THE spring show, which was held in the Waverley Market, Edinburgh, on the above dates, was remarkable for the display of flowering plants and cut flowers. The weather was delightful, and the visitors as a result flocked round the flowers in numbers that made them difficult of inspection, though no doubt the officials of the Society would be well pleased to see the crush. The chief prize for plants was that offered by the Scottish Horticultural Association for a circular table of plants, limited to 12 feet across. The first prize was well won by Mr. McIntyre, gardener to Sir C. Tennant, The Glen, Peebles. The effect of the arrangement was rather massive than graceful, though perhaps on that account none the less effective. Flowering plants were freely employed, and included several *Cytisus*, *Bermuda Lilies*, *Orchids*, and *Amaryllis*. Mr. G. Wood, gardener to James Buchanan, Esq., Oswald Road, Edinburgh, was awarded second prize for a good table, but owing to lack of flowering plants, comparatively dull. Between these tables Messrs. Laird & Son, Edinburgh, furnished a round group of stove and greenhouse plants that was much admired. The *Orchid* classes were well filled. Mr. Curror, gardener to G. Douglas, Esq., Eskbank, in the class for four was easily first with a grand specimen *Vanda suavis* (seventeen spikes), *Cymbidium Lowianum* (ten spikes), *Cattleya Lawrenceanum*, with several blooms, and a long spiked *Oncidium macranthum*. Mr. McIntyre was a good second. The first prize for one *Orchid* was accorded to Mr. G. Chaplin, Dalkeith Road, for a large and well bloomed *Dendrobium thysiflorum*; Mr. Mitchell, Falkirk, being second.

The best stove and greenhouse plants in flower were from Mr. McIntyre, who secured first for both six and for four plants. *Azaleas* were numerous shown, and well flowered, but the plants were comparatively small. The best four were staged by Mr. G. Chaplin. *Pot Roses* were well bloomed, Mr. Galloway being first for six plants, Mr. J. Cumming, Liberton, second, and Mr. S. Abbot, Prestonfield House, Edinburgh, third. For three *pot Roses*, Mr. D. Mackay, Liberton, was first. Nothing was fresher than the *Ferns*, of which some fine specimens were staged by Mr. Napier, gardener to Niel Fraser, Esq., Murrayfield. The same exhibitor was successful in the class for three *Lycopods*. *Cyclamens* were a notable class, the plants being large and well flowered. For twelve plants Mr. T. Lunt, Kier House, Stirling, was first, closely followed by Mr. McIntyre. Mr. J. Ford, Milne Garden, Coldstream, was first for six plants, and Mr. Lunt second. *Cinerarias* were well above the average, large, dwarf, and well bloomed. For six and three of these Mr. Kidd, Carberry Towers, Musselburgh, was first. Particularly fine also were the *Lily of the Valley*, Mr. Peason, Beechwood, showing the best.

Hyacinths were fairly numerous, with large bold spikes. For twelve, Mr. Meiklem, Bridge of Weir, was first, and for six Mr. A. Brydon, Innerleithen. The last-named was also first for six pots of *Tulips*, the blooms being very large. *Narcissi* were also largely shown, Mr. Bald, Canaan Lane, being ahead of the others for six pots. Among other *pot plants* were *Deutzias*, *Arums*, *Pelargoniums*, *Amaryllis*, *Mignonette*—very fine indeed, forced shrubs, hardy *Azaleas*, and many classes for *Primulas* and hardy plants. The alpine from Mr. Paterson including *Primula nivalis*, *P. rosea*, *Ranunculus montanum*, *Polygala chamæbuxus*, *Saxifraga Boydi*, and *Epigæa repens* being extra good.

In the cut flower section the exhibits of greatest interest were the *Narcissi*. There were three entries for the silver cup given by Messrs. Barr & Son, Covent Garden. All were good as to varieties, but that in which the flowers were shown truest to character was from Dr. Campbell, Uddingston, Glasgow, to whom the cup was awarded. The newer as well as old varieties were well shown. Mr. G. McIvor, Sunningdale, Berks, was second; and Mr. A. McInnes, Irvine, third. *Roses* also attracted much attention, particularly the twenty-four blooms staged by Mr. G. Manson, Bathgate, and to whom the first prize was worthily awarded. The *Maréchal Niels* were also good, Mr. G. Fender, Crieff, being first, and Mr. Manson second with bloom slightly smaller. Some charming stands, in dozens, of stove and greenhouse cut flowers were also staged, Mr. McIntyre being first for these. The best bouquet came from Mr. Cowar, Dunbar.

Fruit was very sparingly shown, and comprised Apples, the best of which were from Mr. Day, Garliestown. A few Strawberries from Mr. McIntyre and Mr. Smith (gardener to Lord Hopetoun). The latter had first for two well kept clusters of *Lady Downe's Grapes*, the second prize going to Mr. Kidd, Carberry Towers, for equally well kept Mrs. Pince. The latter were not so good in appearance as the former, but one can imagine some little difficulty before a decision was unanimously arrived at by the judges as to the relative places they should occupy in the prize list. Of vegetables there was a large number, Mr. D. Logan, Coldstream, having the best collection of twelve sorts. Cucumbers, Broccoli, young Cabbages, and Mushrooms were all well shown. The Scottish Mushroom Company exhibited a lot of large Mushrooms from the Scotland Street Tunnel.

In the trade section Messrs. R. B. Laird & Sons were the chief prizetakers, the classes including twenty-four *Hyacinths*, *Azaleas*, forced plants, and Japanese Maples. Of miscellaneous exhibits a table of spring flowering plants was shown by Mr. Aitken, Morningside. Messrs. Methven & Sons, Prince's Street, had a large and charmingly arranged group of plants. Messrs. Glass Brothers showed hardy spring flowers, as also did Mr. Cuthbertson, Rothesay. From Messrs. Dobbie & Co., Rothesay, came *Tulips* and *Hyacinths*; from Messrs. Barr & Co., London, a representative collection of *Daffodils*; and Messrs. Dicksons & Co. also sent *Conifers*. The exhibition, as has already been said, was well attended, and the receipts at the close of the second day were larger than those of last year.



FRUIT FORCING.

Peaches and Nectarines.—*Earliest Houses.*—The stoning process being over with the earliest varieties they may be given a temperature of 70° to 75° by artificial means, allowing it to fall to 65° or even 60° on cold nights, keeping through the day at 80° to 85° from sun heat, ventilating by the top at 75°, and opening the front at 80°, so as to insure a circulation. Admit a little air constantly. Close the house at 80° sufficiently early to allow of an advance to 85° or 90° from sun heat, the trees being well syringed and good atmospheric moisture secured, but the fruit and foliage must become fairly dry before night. Draw aside or remove the leaves over or in front of the fruit, and turn this up to the light by thin laths placed across the trellis. Syringing should cease when the fruit commences ripening, but a genial condition of the atmosphere must be maintained for the benefit of the foliage by damping the paths and borders twice a day or as necessary. Unless the fruit is required by a given time or as early as practicable it is advisable to proceed more gradually, not keeping the temperature more than 60° to 65° at night, and 70° to 75° by day with gleams of sun, and 5° to 10° advance on bright days until the stoning is completed or even during the last swelling of the fruit.

Houses Started at the New Year.—The fruit is in a more forward state than usual, the disbudding, heeling-in of the shoots, and the fruit thinning having been attended to. Allow no more growths to remain than are necessary for next year's fruiting or for the extension of the trees. Stop gross growths or remove them, as it is highly important the sap be equally distributed. Pinch laterals at the first joint, and shoots retained to attract the sap to the fruit should only be allowed moderate extension, stopping them in the first instance at three or four joints of growth. Endeavour to provide an even distribution of foliage that will shade and protect the wood from the direct rays of the sun as the season advances. Ventilate early, freely but carefully. As the fruits are swelling fast thin the berries, as with the trees in good health the fruit is more likely to stone well than when they are overburdened. Water the inside border copiously when supplies are required, and mulch with a little sweet rather lumpy manure.

Houses Started in February.—Disbudding should be proceeded with, being careful to retain a shoot at the base of the current year's bearing shoots, and to leave no more on the extensions than will be required for furnishing the trees with bearing wood at 15 to 18 inches distance apart, and all the others on these may be pinched in closely to form spurs. A shoot on a level with or above the fruit must also be retained on each bearing shoot, and be pinched at the third joint. As the fruit is swelling freely remove those worst placed, and leave only a few more than will be required for the crop. Syringe early on fine mornings, give a little air shortly afterwards, gradually increasing it, and close about 3 P.M.; but if the weather be very bright later closing must be practised.

Houses Started in March.—As soon as the fruit is set and the young growths progressing aphides usually make their appearance, when they should be promptly assailed by nicotine vapour, tobacco smoke, or some liquid insecticide. Syringe moderately in the morning and on fine afternoons, always early enough to allow the foliage to become fairly dry before nightfall. Disbud gradually, and rub off all small and badly placed fruit as soon as the most promising show signs of taking the lead. Ventilate freely on all favourable occasions and close early with a view of husbanding the sun heat, but avoid a close vitiated atmosphere, admitting a little air constantly to prevent it.

Late Houses.—The trees in these are unusually forward. This is no great disadvantage where they are provided with means for excluding frost, as the ripening can be retarded by free ventilation through the summer. Ventilate freely, but keep safe from frost. During the flowering and afterwards a temperature of 50° should be maintained by day, keeping it at that with a gentle circulation of air, turning off the heat early in the afternoon so as to allow the pipes to cool before night, and the temperature falling to its night minimum of 40° to 45°, which is quite safe, and ought to be secured with a little air to prevent the deposition of moisture through the night on the flowers. Artificial fertilisation should be resorted to, but the best security for setting are perfectly developed blossoms and a genial well-aërated atmosphere.

Melons.—Plants swelling their fruits require liberal supplies of water or liquid manure at the roots, providing plenty of atmospheric moisture. There must be no deficiency of moisture at the roots or in the atmosphere until the fruit commences ripening, and not then if the plants are to continue for a second crop. A little air constantly is advisable during ripening to prevent the fruit cracking and insure high quality. During the setting of the fruits a drier condition of the atmosphere is advisable, but the soil must not become so dry as to cause the foliage to flag. Attend daily to setting the flowers, stopping the growths as the blossoms are fertilised. Keep the temperature at 65° to 70° at night, 70° to 75° by day artificially, and between 80° and 90° with sun heat, ventilating carefully at all times, avoiding sudden fluctuations.

Plants in frames are showing fruit, and unless they are sufficiently numerous to insure two or three fruits to a plant setting at the same

time, it is desirable to remove the first blossoms, as with more shoots there will be no difficulty in securing five or six fruit-bearing flowers of simultaneous growth on each plant, which should be fertilised. Maintain good linings, bottom heat, and a dry condition of the atmosphere when the fruit is setting. Earth the plants as they advance in growth, having this effected before the fruit is set, as it cannot well be attended to afterwards in frames. Make new beds, and put out plants, sowing, potting, and otherwise preparing for planting successional beds.

Cucumbers.—Shading will be necessary in the middle of the day for an hour or two in bright weather to prevent flagging. In watering plants in pits and frames do it early in the afternoon, maintaining a good bottom heat by linings renewed as required. Ventilate early and moderately, securing 90° from sun heat, husbanding this by early closing, and employ good night covering over the lights. Avoid overcrowding, stopping the shoots one joint beyond the fruit, and removing bad leaves as they appear.

Keep young plants near the glass, sow seeds for raising plants to occupy houses, pits, or frames after forced vegetables or bedding plants are removed. Water plants in houses abundantly, keeping plenty of moisture in the atmosphere all day by frequent damping, syringing the plants about 3.30 P.M., closing the house at the same time. To secure straight fruit employ glass tubes.

THE KITCHEN GARDEN.

Cabbage.—Although there have been no losses from frosts, early Cabbages will not be very plentiful this season. In some instances fully three parts of the plants put out last autumn have "bolted"—that is, run to seed prematurely. The best way out of the difficulty is to pull up all that have run to seed, and plant fresh rows between where the old ones ran. Small plants from the old seed beds, and any recently raised, are suitable. In order to hasten the growth of those plants that are standing well either stir in a light surfacing of nitrate of soda (2 ozs. to the square yard) among them, or a fairly heavy dressing of soot, leaving it to the rains to wash it down to the roots. Once more Ellam's Dwarf Spring Cabbage is doing good service, only a very few plants of this variety running to seed prematurely.

Carrots.—From the middle to the end of April is a good time to sow the main crop Carrots. Ground that was manured freely last season ought to be quite rich enough for Carrots. A liberal dressing of common sand, well mixed with soil of a somewhat heavy nature, would render it more fit for the growth of Carrots, and so also would the fine sandy soil obtained by sifting over a heap of old potting soil. What is wanted is a free, open root run. Open shallow drills 12 inches apart, and if dry give a gentle watering. If need be mix the seed with sand the better to sow it evenly and thinly, and cover with fine soil. Nantes Horn, Intermediate, and Long Red Surrey are the varieties to sow now.

Beet.—What has been advanced concerning Carrots largely applies to Beet, coarseness proving objectionable in both cases. Prepare the ground thoroughly well, as a lumpy soil is more likely to produce forked roots than ground that has not been dug this season. For very shallow, hot soils the improved forms of the Turnip-rooted Beet are the best, and they are also the first fit for use. The drills for Dell's Crimson and Turnip-rooted may be drawn from 12 inches to 15 inches apart, allowing another 3 inches for the coarser varieties.

Celery.—Plants raised thickly in seed beds soon become drawn and spindly, moving badly accordingly. While they are sturdy proceed with the regular routine of preparing them for the open ground. The earlier plants require to be pricked out in large boxes or in beds of fine soil over a mild hotbed and forwarded with the aid of glazed lights. For successional plants place about 6 inches of decayed manure in a sheltered position; on this spread 2 inches of fine soil, and then prick out the plants 4 inches apart each way. Give a gentle watering, and with the help of stout uprights and cross poles shade from bright sunshine, cold winds, and frosty nights. Kept moist at the roots, sturdy plants will be had, which ought to be moved to the trenches directly they touch each other. Plants from later sowings may be similarly prepared.

Lettuce.—Those plants early pricked out in boxes or frames should not be allowed to crowd each other. Plant on warm borders, and let there be plenty of good manure under them. Later plants, when large enough, should be first pricked out where they can be well looked after, and when too large to be easily cleared off by slugs transplant to the Celery ridges or other open quarters. Sow more seeds quite in the open, this time where a portion of the plants can remain to heart in. The rows of or drills for Cabbage varieties may be disposed 10 inches apart, allowing another 2 inches for the Cos varieties.

PLANT HOUSES.

Abutilons.—Plants that are trained to cover walls or pillars in various houses may now be well pruned back if they are to be in good condition until next season at this time. When the plants are expected to bloom over a long period of time hard pruning should be resorted to. This, combined with a judicious system of thinning during the growing season, will insure a succession of bloom for at least eight or nine months of the year. If the roots are restricted in borders remove a good portion of the surface soil and top-dress them with equal parts of fibrous loam and manure. A quantity of cuttings of dwarf free-flowering varieties may now be rooted singly in 2 or 3-inch pots, and afterwards transferred into 5 or 6-inch. These, if grown for a time in heat, will make valuable plants for the decoration of the conservatory during the summer months. Plants rooted some time ago may be

transferred into the last size, and as soon as they commence flowering may be removed to the conservatory.

Habrothamnus elegans.—A very useful plant for covering walls and pillars; for the latter few equal it when trained 10 to 12 feet high, and then allowed to form a large head. Such plants that have done flowering should be cut hard back, for by this means only can they be kept clean and presentable. Those pruned now will before another autumn make shoots 6 or 7 feet in length, which will droop gracefully, and will flower from the axil of every leaf. The flowers of this plant during the winter are invaluable for table decoration. By lamplight the flowers have the appearance of coral, and are most striking on the white tablecloth.

Bignonia grandiflora.—This and other varieties that are used for furnishing the roof and pillars of the conservatory and greenhouse should be examined, and their shoots tied and arranged for the season. Prune all that flower from ripened wood, and train the branches thinly, so that light and air can penetrate freely to harden and ripen them. It is useless to plant Bignonias in houses densely shaded, for they will not flower. The wood must be thoroughly ripened if a profusion of bloom is expected. *B. venusta* and some others make capital evergreen pillar climbers for those houses that are heavily shaded.

Lapagerias.—These will now be growing freely and require abundance of water at their roots. If confined in small borders weak stimulants may be given every alternate time water is needed, clear soot water being very beneficial. Keep the shoots from the glass, but not tied in too tightly. They flower better, and present a more striking appearance when all the small growths are drawn below the wires on which the main branches are trained. This process somewhat arrests growth, and the shoots become firm and hard, and large racemes of bloom are the result. Young plants that are to be extended should have the whole of the shoots trained vertically or horizontally, according to the mode of training adopted. Keep the house in which these plants are grown cool and airy, for the ends of the shoots quickly discontinue growth when the atmosphere is close.

Tacsonias and Acacias.—These, as well as other greenhouse climbers that have flowered, must be pruned and their growths regulated. If left for a season or two they become crowded, and light is excluded from the plants below. Arrange the main branches thinly, so that the roof will be evenly covered by the end of the season; but with well established plants of *Tacsonias* and *Passifloras* the shoots require attention at intervals of a month during the season. If the newly made growths are allowed to hang from the main shoots in large houses a very picturesque appearance is obtained when the plants are in flower.

Ivy-leaved Pelargoniums.—Few plants equal the double and semi-double forms as climbers for the sides of houses and pillars in light, open, exposed positions. It is useless to plant them in shady places, for they will grow but not flower; but when fully exposed to light and sunshine they yield a large profusion of delicate and beautiful flowers for cutting, either for home decoration or for packing during the London season. They have a more delicate appearance than *Zonals*.

THE BEE-KEEPER.

SPRING MANAGEMENT.

THE present changeable weather is very trying to the bees; still, the first three months of the year has been in their favour, but much will depend on their management during the next few weeks whether success or failure will have to be chronicled when the honey flow comes, provided the weather is favourable at that time. The bee-keeper's aim should be to have all stocks strong and overflowing with bees when required, and now is the time to make preparation.

As breeding is going on apace warmth is essential. The winter covering should be allowed to remain on the top of the frames, and if a piece of board is placed over the whole when snugly covered with several thicknesses of warm material it will be found of great advantage, as it will conserve the heat of the hive in a marked degree. After a bright sunny day (and we have had our share of them in the Midlands lately) if the stock is examined, say at 10 P.M., the temperature of the hive treated on the above lines will be found to be several degrees warmer than those having only scanty coverings. The bees, too, at that hour will be found to be hard at work, and the hum of the busy workers may be heard several yards distant from their hives, which is quite unusual so early in the season.

But in the past week a much lower temperature has been registered, high winds, with heavy showers of sleet, hail, and rain have prevailed. During a continuance of this weather all stocks, of which there are any doubts as to their having a plentiful supply of stores, should be supplied with thin syrup in the evening, made in the proportion of 1 lb. of sugar to 1 pint of water. I prefer a bottle-feeder at this season, as there is then no escape of heat from the hive, which is the objection to many of the feeders in the market.

An ordinary broad-mouthed bottle will answer the purpose admirably. Tie a piece of thin muslin over the mouth, cut a hole through the quilt the same size, and insert a piece of perforated zinc, this will prevent the bees escaping or being disturbed when refilling the bottle. Place the bottle mouth downwards over the zinc, and the bees will take the syrup readily as required, and there will be no leakage. Cover the bottle warm, taking care not to spill any of the syrup, as robbers are ever on the alert, and carelessness in this respect will soon set the apiary in an uproar. Feeding need not be continued during bright weather, as the fast opening blossoms will be sufficient for the bees' daily requirements.

Spreading brood is still advocated by some bee-keepers, and in the hands of the experienced is sometimes a success, but there are so many risks attached to it, that I cannot recommend it. I experimented in this direction for several years, with the result that some of the stocks operated on did well; others made little headway, and those that were left alone, but supplied with the necessary stores, were strong and healthy, and stored an equally good surplus as those that were experimented with.

It may be of interest to explain the system. The plan usually adopted to stimulate the bees is to make preparations six weeks before the honey flow is likely to take place, by uncapping a few cells daily, or, if short of stores, to feed with thin syrup. When two or three frames in the centre of the hive are filled with brood, take an empty frame of fully drawn out worker comb and place it in the centre of brood nest between two frames of brood. Repeat the operation, according to the weather, every three or four days, or as fast as the combs are filled with brood, and should the weather continue warm all will go well. Should there, however, be a spell of cold, wet weather, the bees will cluster in the centre of brood nest for warmth, and being unable to cover the whole of the brood, the outside combs of brood will be chilled, and this is my objection to the system.

If the bees are supplied with the necessary food, and the internal arrangement for the hive left to themselves, they rarely make the mistake of having chilled brood. But stimulate by all means by uncapping or bruising the capping of the sealed stores, and there will be no complaints of chilled brood or the attending evils.—AN ENGLISH BEE-KEEPER.

TO CORRESPONDENTS

•• All correspondence should be directed either to "THE EDITOR" or to "THE PUBLISHER." Letters addressed to Dr. Hogg or members of the staff often remain unopened unavoidably. We request that no one will write privately to any of our correspondents, as doing so subjects them to unjustifiable trouble and expense.

Correspondents should not mix up on the same sheet questions relating to Gardening and those on Bee subjects, and should never send more than two or three questions at once. All articles intended for insertion should be written on one side of the paper only. We cannot reply to questions through the post, and we do not undertake to return rejected communications.

Cannas (W. W.).—We do not know of any cheap work on the cultivation of Cannas, but cultural notes will probably appear before very long in the *Journal of Horticulture*.

Zinc Labels (H. H.).—Zinc labels in different shapes and sizes, also the proper kind of ink for writing on them, are sold by most nursery and seedsmen of repute in various parts of the kingdom.

Widely versus Closely Planted Tomatoes (C. H.).—Neither arrangement is good. The best crops would be had from plants 15 inches apart in rows 3 feet asunder. A distance of 18 inches apart each way is not enough space, the plants unduly shading each other, and the crops are usually light accordingly. On the other hand, arranging them 30 inches apart in rows 3 feet asunder is allowing more space than is needed. The condition that the crops be thinned to sixteen fruits on each plant is an unwise one. On the thinly arranged plants they would attain the greatest individual weight, but in the closer arrangement there would be a much greater number of plants, which would more than compensate for the lightness of the fruit individually. If instead of confining the number to sixteen on each plant, all were allowed to produce as many as possible, other than those resulting from fasciated flowers, then there is every likelihood of the thinly disposed plants yielding the most profitable crops.

Green Glass for Fernery (W. S.).—Having tried nearly every kind, and certainly every colour of glass answering to that of the solar spectrum, we have not found any answer so well as ordinary, or so-called "white" glass, especially that known as rough plate, which is more or less of a greenish hue, but not more than crown glass, only being thicker it shows more. Even clear glass in the winter is better for Ferns than rough or any kind of uneven-surfaced glass, and it is easy when spring comes to use the requisite shading outside. Perhaps some correspondent will state his experience of coloured glass and tinted shading material for ferneries and foliage plant houses.

Fungus on Strawberry Plants (T. P.).—The leaves you sent are perfectly innocent of any fungoid growth, but there is an old leaf amongst the younger ones which shows the plants last late summer or autumn to have been badly infested with the Strawberry leaf blight (*Sphaerella fragariæ*). This so weakens the plants that they do not form good crowns, and in consequence the flower stems are thrown up badly and the fruit swells indifferently. It was rather common last season, and pursues its weakening and leaf-destructive work late in the autumn, at least the leaves then collapse, but the mischief is begun earlier and that (July or August) is the time to proceed against the enemy by dusting the plants with one of the advertised fungicides. Nothing can be done now but aid the plants by a little fertiliser, especially that of a phosphatic nature.

Tomato Plant Diseased (O. H. E.).—The young growths are infested by some parasitic fungus, which has caused their discolouration, drooping, and collapse. There are no outgrowths—that is "fruits" or reproductive bodies, therefore we are unable to tell what the fungus is, but it certainly is not "sleepy disease," as caused by *Fusarium solani* or *F. lycopersici*, and the mycelia is either that of *Macrosporium lycopersici* or *Phytophthora infestans*, or perhaps both, as they are frequently associated. The preventive or remedy for both is dusting the plants with "Fostite," which has been advertised in the *Journal of Horticulture*, or other of the powder fungicides. These are better for Tomatoes and use under glass generally than liquid fungicides, such as Bordeaux mixture. The fungicide should be applied by means of a bellows apparatus, keeping the growths very lightly and evenly coated.

Old Clove Carnation Diseased (A. R.).—The plant is badly infested by the Carnation leaf-spot fungus (*Septoria dianthi*) which appears on the leaves and stems in the shape of a more or less circular purplish spot with a whitish centre, the latter often being dotted with black (not present in your case) by the fruiting portions of the fungus. The parasite—it is the mycelial hyphae that does all the mischief—penetrates the stem rather deeply, often cutting off the supply of nutriment to the parts above, and consequently causing their collapse. Sometimes the plants go off at the roots, but this is chiefly confined to layers or cuttings, the mycelia having assailed the tender part of the stem before layering or putting in as cuttings. The spores are produced in great abundance, and distributed by wind and water. There is nothing better than dusting the plants with some approved fungicide powder, or spraying them with Condy's fluid diluted to a rose colour with pure water.

Lead in Plants—Coating Seed with Red Lead (J. S.).—Lead has been discovered in the ashes of plants, but in very minute amounts, and it is assuming a great deal that such is of importance to agricultural or horticultural vegetation, or that such forms as the red oxide of lead are injurious to plant life, though it is well known that the soluble compounds of lead are baneful or poisonous unless highly diluted. We can state from experience that if Peas or other seeds are dressed with red lead, to protect them from mice and birds, there is not a possibility of the plants absorbing lead or any compound of lead from soil to an extent prejudicial to their health or in any way dangerous to those partaking of such plants or their products. In the case of Radishes the red lead adheres more or less to their roots, especially to the base of Turnip-rooted varieties, but there is no danger in that provided the Radishes are properly washed before use—indeed, we have not known any injury accrue by the use of red lead in the manner described, and have found it an infallible preventive of birds taking seeds; but for rats and mice the seeds should first be moistened with petroleum, and then lightly coated with the red lead; or that for the rodents alone is not necessary, the petroleum sufficing, provided they are moistened all over.

Names of Plants.—We only undertake to name species of plants, not varieties that have originated from seeds and termed florists' flowers. Flowering specimens are necessary of flowering plants, and Fern fronds should bear spores. Specimens should arrive in a fresh state in firm boxes. Slightly damp moss, soft green grass, or leaves form the best packing, dry wool the worst. Not more than six specimens can be named at once, and the numbers should be visible without untying the ligatures, it being often difficult to separate them when the paper is damp. (*E. M. P.*)—*Clivia miniata*. (*Orchid*).—1, *Platyclinis glumacea*; 2, a fine form of *Dendrobium nobile*. (*Howden Dene*).—1, *Cornus mascula*; 2, *Forsythia suspensa*; 3, *Retinospora tetragona*; 4, *R. plumosa*; 5, one of the stove Pines, but we cannot determine the specific name without fuller knowledge of the habit of the tree; 6, *Coronilla glauca*. (*S. P.*)—1, *Narcissus aurantius plenus* (Butter and Eggs); 2, *N. sulphureus plenus* (Codlins and Cream); 3, *N. telamonius plenus* (common double Daffodil). (*S. B.*)—*Rhododendron fragrantissimum*. The Azalea is a florists' variety not a species, and can only be named by comparison. (*Juno*).—1, *Lycaste lanipes*; 2, *Dendrobium thyrsiflorum*; 3, *Acineta Humboldtii*.

TRADE CATALOGUES RECEIVED.

Geo. Bunyard & Co., Maidstone.—*Herbaceous and Other Plants*.
William C. G. Ludford, Four Oaks, Sutton Colfield.—*Illustrated List of Cacti and Succulent Plants*.
Wm. Paul & Son, Waltham Cross, Herts.—*New Roses and Florists' Flowers*.
Paul & Son, Cheshunt.—*Roses and Other Plants*.

COVENT GARDEN MARKET.—APRIL 15TH.

THE first cargo of Tasmanian Apples arrived during the week, but in full ripe and soft condition. Prices far above their value.

FRUIT.

	s.	d.	s.	d.		s.	d.	s.	d.		
Apples, per bushel	2	0	to	4	6	Peaches, Cape, per case ..	0	0	to	0	0
" Nova Scotia, barrel 13	0	20	0			Pears	0	0	to	0	0
Grapes, per lb.	1	3	4	0		St. Michael Pines, each ..	2	0	6	0	
Lemons, case	11	0	14	0		Strawberries, per lb. ..	4	0	6	0	

VEGETABLES.

Asparagus, per 100	..	..	6	0	to	6	6	Mustard and Oress, punnet	0	2	to	0	0	
Beans, per lb.	..	..	0	6		1	3	Onions, bushel	..	..	3	6	4	0
Beet, Red, dozen	..	..	1	0		0	0	Parsley, dozen bunches	..	..	2	0	3	0
Carrots, bunch	..	..	0	3		0	4	Parsnips, dozen	..	..	1	0	0	0
Cauliflowers, dozen	..	..	2	0		3	0	Potatoes, per owt.	..	..	2	0	4	0
Celery, bundle	..	..	1	0		0	0	Salsafy, bundle	..	..	1	0	1	6
Coleworts, dozen bunches			2	0		4	0	Seakale, per basket	..	..	0	9	1	3
Cucumbers, dozen	..	..	2	0		4	0	Scorzonera, bundle	..	..	1	6	0	0
Endive, dozen	..	..	1	3		1	6	Shallots, per lb	..	..	0	3	0	0
Herbs, bunch	..	..	0	3		0	0	Spinach, pad	..	..	0	0	4	6
Leeks, bunch	..	..	0	2		0	0	Sprouts, half siv.	..	..	1	3	0	0
Lettuce, dozen	..	..	1	3		0	0	Tomatoes, per lb.	..	..	0	6	0	0
Mushrooms, per lb.	..	..	0	6		0	8	Turnips, bunch	..	..	0	3	0	6

PLANTS IN POTS.

Arbor Vitæ (golden) dozen	6	0	to	12	0	Ferns (small) per hundred	4	0	to	6	0
Arm Lilies, per dozen ..	8	0		12	0	Ficus elastica, each	1	0		7	0
Aspidistra, dozen ..	18	0		36	0	Foliage plants, var. each	1	0		5	0
Aspidistra, specimen plant	5	0		10	6	Genista, per dozen	8	0		12	0
Azalea, per dozen	18	0		36	0	Hyacinths, dozen pots ..	8	0		12	6
Cineraria, dozen pots ..	6	0		9	0	Hydrangea, various, dozen	9	0		24	0
Cyclamen, dozen pots ..	8	0		15	0	Lilium Harrissi, per dozen	18	0		30	0
Dielytra, per dozen ..	9	0		12	0	Lycopodiums, dozen ..	3	0		4	0
Dracaena, various, dozen ..	12	0		30	0	Marguerite Daisy, dozen ..	6	0		9	0
Dracaena viridis, dozen ..	9	0		18	0	Mignonette, dozen pots ..	8	0		9	0
Ericas, various, per dozen	9	0		24	0	Myrtles, dozen	6	0		9	0
Euonymus, var., dozen ..	6	0		18	0	Palms, in var. each	1	0		15	0
Evergreens, in var., dozen	6	0		24	0	.. (specimens)	21	0		42	0
Ferns in variety, dozen ..	4	0		18	0	Spiræas, doz.	6	0		9	0

AVERAGE WHOLESALE PRICES.—OUT FLOWERS.—Orchid Blooms in variety.

Anemone (French), dozen bunches	2	0	to	4	0	Narcissi, var. doz. bunches	0	9	to	2	0
Arum Lilies, 12 blooms ..	2	0		4	0	Orchids, various, doz. blms.	1	6		12	0
Asparagus Fern, per bunch	2	0		4	0	Pelargoniums, 12 bunches	6	0		9	0
Azalea, dozen sprays	0	4		0	9	Primroses, dozen bunches	0	6		0	9
Bouvardias, bunch	0	6		1	0	Primula (double), dozen sprays	0	6		1	0
Camellias, dozen blooms ..	0	9		1	6	Roses (indoor), dozen	1	0		2	0
Carnations, 12 blooms ..	1	0		3	0	„ Tea, white, dozen	1	6		2	6
Cyclamen, dozen blooms ..	0	3		0	6	„ Yellow, dozen (Niels)	3	0		6	0
Daffodils, single, doz. bun.	1	6		6	0	„ Red, dozen blooms ..	2	0		6	0
„ double, doz. bun.	1	6		2	0	„ Safrano (English), dozen	1	6		3	0
Eucharis, dozen	3	0		4	0	„ Pink, per dozen	3	0		8	0
Gardenias, dozen	2	0		3	0	Smilax, per bunch	4	0		6	0
Geranium, scarlet, doz. bunches	4	0		6	0	Spiræa, dozen bunches ..	3	0		5	0
Hyacinths, dozen spikes ..	2	0		4	0	Stephanotis, dozen sprays	6	0		9	0
Hyacinth, Dutch, various, per box	2	0		5	0	Tuberose, 12 blooms	0	6		1	0
Lilac (French) per bunch	3	0		4	0	Tulips, dozen blooms ..	0	4		0	6
Lilium longiflorum, twelve blooms	3	0		5	0	Violets Parme (French), per bunch	3	0		4	0
Lily of the Valley, 12 sprays	0	6		1	0	„ Ozar (French), per bunch	2	0		3	0
Maidenhair Fern, doz. behs.	4	0		8	0	„ Victoria (French), 12 bunches	1	0		1	6
Marguerites, 12 bunches ..	2	6		4	0	„ English, 12 bunches ..	0	9		1	0
Myosotis or Forget-me-not, dozen bunches	3	0		6	0	Wallflowers, dozen bunches	2	0		4	0



THE CALF.—No. 2.

IN the case of a cow shortly to be turned out to grass, if she is taking new calves, it is most desirable that she should become accustomed to them before being allowed her full liberty. There is always a danger that she may not take kindly to her step-children, and as they will suffer for lack of milk she will suffer even more from a plethora of milk. This will, if not at once detected, cause downfall of the udder, a serious and difficult disease to remedy. It therefore behoves all who have charge of such stock to guard against such possibilities. Again, a freshly dried cow should never be turned into a field where there are young calves, especially if she be a cow who adopts

strange calves without hesitation. For her own comfort she may induce the calves to suck. This will cause a new flow of milk, and should she or the calves be separated again there will be great danger from the sudden stoppage of milking, and downfall may again ensue.

The last year or two plenty of calves could be bought a few days old for 10s. or 15s. each. These might appear cheap, but a Shorthorn-bred calf bought for £2 would in the long run prove infinitely better worth the extra money. At the age of two or two-and-a-half years the better bred calf would be worth very much more than the 25s. or 30s. difference in original price, and the difference in cost of keep would be nothing. There is as much difference in the thriving capabilities of stock as there is in the capabilities of ancient and modern machinery. Animals are only meat and milk making machines, and should be treated as such. The best animal is that which arrives at maturity with the least possible expenditure. The best machine is that which does the greatest amount of work in the least time, and with the smallest amount of fuel.

A manufacturer when putting down new machinery does not count present cost alone—that is very immaterial in comparison with the work achieved. That there has been great improvement in cattle breeding no one disputes, but there is still a very wide field for further advances. See what has been done in certain districts of Ireland by the introduction and establishment of herds of high-class Shorthorns. This is private enterprise. Irish beasts that come over now are much better in type than formerly. There is room here for action by the Board of Agriculture, especially if it were possible for the owners of small holdings to secure the services of good bulls bred of milking strain for small or nominal fees. As it appears probable that the farming of the future will be farming of the many not the few, no doubt Queen's premiums will be given for bulls of such a description, and the production of milk will thus be greatly increased.

The great objection to a dairy herd entirely of Jerseys or a like strain is the difficulty in the disposal of bull calves, other than those needed for sires, for no power on earth can make them into butcher's beef. Neither has a market yet been found for the lean old cows past their milking days. Possibly someone may say, "But are not most of the calves heifers?" By no means, and the chances are that if you have a cow you value the most she is usually terribly disappointing, and prefers sons to daughters.

Now, with a good Shorthorn herd all are feedable, and thus all can be turned into money. We again reiterate our former advice. In beginning stock-breeding buy the best cows you can get hold of, and go to the expense of a blue-blooded "Royal Duke" as sire. The expense need not be ruinous if you buy a yearling, and if you are in any doubt yourself as to your own judgment, one of the great Shorthorn auctioneers will gladly execute a commission for you at some forthcoming sale.

There is such a thing as fashion in colour, but for the purposes of the average farmer and breeder that need not be considered. We remember what wonderfully good stock was got by a white bull, whose pedigree was as pure as his hide, and he quite disproved the theory that obtains in some communities as to the delicacy of white cattle. Of course, there is white and white. A dead chalky white may, and possibly does, indicate certain delicacy; but if you see a white bull with plenty of yellow hair on his neck, you may rest assured there is no inherent delicacy there.

It is of the utmost importance not to leave calves out too late in the season. By the end of September calves should be brought up at night, and should an early winter set in let them be taken up altogether; certainly none should be found in the fields in November, however mild it may be. A few cold nights will take off more from the value of young stock than many weeks' care will put back. To the casual observer this is not apparent, and it is only when after being up for some weeks that the slow growth and improvement show that there has been some hidden mischief somewhere.

Happily calves (after the first fortnight or so) are liable to very few diseases. There are districts where calf rearing seems a difficult, nay impossible thing, owing to the prevalence of what is known as "black leg." Cure it you cannot; prevent it you may. It is found that only calves that are doing too well fall victims. For calves that are in boxes the remedy is easy. In warm weather (unnatural weather early in the spring) be careful to lessen the supply of rich stimulating food, and keep the blood cool. There is some pasturage totally unfitted for growing calves, and common sense will teach breeders which to avoid. You cannot well curb a calf's appetite when on grass, but you can keep it off rich succulent pasture, such as would be found in low-lying meadows. The use of the seton too is strongly recommended by some authorities.

WORK ON THE HOME FARM.

The weather is still showery, and though there have been one or two sunny warm days, on the whole it may be put down as cold, and with the wind steadily blowing from the north, likely to remain so. Work has been accumulating the last week or two, and cannot now be said to be as forward relatively as it was six weeks ago. A really fine spell of weather is now urgently needed.

Spring or Lent corn is all in, except where sheep are still on Swedes. Present prices of mutton do not encourage any wasteful hurry in disposing of the roots still on hand: 96 lbs. of shearling mutton for 37s. must represent the lowest depth, so he must hold on as long as possible; 5s. per head on the fat sheep would pay for many acres of late Barley, so the corn this time must take its chance.

The cold weather is beginning to take effect on the forward Wheats, which show signs of assuming prematurely golden tints, if present conditions are long continued. Nitrate of soda is a good antidote, but should be used sparingly; 60 lbs. per acre, mixed with a little salt to assist in a more even distribution, being generally as much as it would pay to apply.

Cabbages will want horse-hoeing now, where large enough, and after being hand-hoed in the rows will be better for having a little earth put to them with an earthing plough. Top-dressings should have been applied previously, of course; and, in this connection the Cabbage can hardly be treated too generously. There is an erroneous idea that light soils are always the easiest to work, and strong land *vice versa*, but that this is not an infallible rule we have learned by experience. Light land, with plenty of stone in it is easy to work and clean, though not always to plough, but such without stone in it, generally known as "blowing sand," is impossible to clear with horse implements, nothing but a hand fork is of any use.

Such land has always depth of soil (such as it is), and it is this very depth combined with looseness that creates the difficulty. Couch Grass revels in such stuff, and drags and harrows are only like brushes and combs, they pull out a small quantity and bury the remainder. Wheat at £5 per quarter, we suppose, was responsible for rescuing this "room out of doors," from its original state of common, and it seems little less than a miracle that it has not all relapsed to that state long ago. We have tried it with the three or four years' sheep pasture system thoroughly, but the herbage after the second year always became mossy, except in hot seasons, when there would be no herbage at all to speak of; and the worst point was, that clean it as you would before sowing down, it had always developed a grand plant of twitch in the three years.

We have known many cases of farmers leaving strong land in disgust, and eager for something easy to plough, taking light land of this description, and finding that the fire was no better than the frying pan. *Experto crede*, leave such stuff alone.

METEOROLOGICAL OBSERVATIONS.

CAMDEN SQUARE, LONDON.

Lat. 51° 32' 40" N.; Long. 0° 8' 0" W.; Altitude 111 feet.

DATE.		9 A.M.				IN THE DAY.				Rain.
1896 April.	Barometer at 32° and Sea Level.	Hygrometer.		Direc- tion of Wind.	Temp. of soil at 1 foot.	Shade Tem- perature.		Radiation Temperature		
		Dry.	Wet.			Max.	Min.	In Sun.	On Grass.	
	Inchs.	deg.	deg.		deg.	deg.	deg.	deg.	deg.	Inchs.
Sunday .. 5	30.197	50.2	49.1	N.E.	44.2	55.4	43.8	68.1	44.7	0.011
Monday .. 6	30.230	52.4	44.0	N.W.	45.1	54.2	45.8	89.9	38.4	—
Tuesday .. 7	30.276	55.1	44.9	N.W.	46.0	63.0	48.3	106.3	39.4	—
Wednesday 8	30.285	56.9	51.2	N.W.	47.9	65.4	49.2	102.8	41.9	—
Thursday .. 9	30.282	53.6	47.4	N.W.	49.0	58.8	49.9	100.4	38.9	—
Friday .. 10	30.231	54.3	48.0	W.	48.9	59.2	41.6	98.9	34.1	0.021
Saturday .. 11	29.916	47.3	46.2	N.	48.0	55.4	40.8	92.8	35.4	0.018
	30.207	52.8	48.5		47.0	59.3	45.6	94.0	38.8	0.050

REMARKS.

- 5th.—Small rain till about noon, fair afterwards.
6th.—Dull day, with occasional sunshine.
7th.—Sunny morning; generally cloudy after noon.
8th.—Sunny almost throughout; solar halo 10 to 11 A.M.
9th.—Fine and mild, with frequent intervals of sunshine.
10th.—Generally overcast in morning; slight shower at 1 P.M.; much sun in afternoon.
11th.—Gale, with alternate cloud and sunshine, and occasional showers; solar halo at 10 A.M.
A fine, warm, dry week—no frost.—G. J. SYMONS.

DANIELS BROS.

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12 Very Choice Distinct Single ZONALS	..	4	0
12 " " " Double " "	..	4	0
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12 " " " Single " "	..	2	3
25 " " " " " "	..	4	0
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COTTAGE GARDENING; being an Essay

to which the Royal Horticultural Society awarded Mr. W. EGERTON HUBBARD'S Prize, February 16th, 1870. By E. W. BADGER. Third Edition. Price 3d.; post free, 3d. JOURNAL OF HORTICULTURE Office, 171, Fleet Street, London, E.C.

HEATING APPARATUS.—Medals 1875 and

1881. Catalogue of Boilers, Pipes, and Fittings free. W. Jones' Treatise, "Heating by Hot Water," second edition, 216 pages, 2s. 6d.; post free, 2s. 10d.—JONES & ATTWOOD, Stourbridge.



Journal of Horticulture.

THURSDAY, APRIL 23, 1896.

MR. ARCHIBALD F. BARRON.

"ALL'S well that ends well," and the little storm that was raised on the retirement of Mr. Barron from Chiswick a few months ago had a happy ending in the Hotel Windsor on Tuesday last, when, as will be found recorded on a subsequent page, he was handed a cheque for £500. This was tendered as an expression of esteem on the part of a multitude of friends for himself personally, and in recognition of his services to horticulture over a long period of years.

To cite the words written to us by one of Britain's most famous gardeners, "Barron deserves it all." He deserves it for long, faithful, and able services; for the prudence that he exercised during all those years, which enabled him to stand firm amidst various conflicts that ended in changes of the governing bodies of the R.H.S.—changes of policy, of routine, of officials, of practically everything, till as one by one of the departmental workers fell away only he was left. He deserves it for consistency of conduct throughout his long career, coupled with his quiet, undemonstrative manner and cautious utterance; for his studious endeavour to be just and fair to all, and his habit of looking at whatever was entrusted to his care on its merits alone, and absolutely without thought or reference to the source from whence it came.

None can know so well that this was so as the different members of committees, whose duties included the examination of the multifarious products of various kinds that were grown in the Chiswick trials. Many have been the men who have taken part in this work over a generation of meetings, at which thousands of plants or crops have been closely inspected, their faults and merits discussed, and the decisions respecting them accorded; yet we dare venture to say that not one member of the scores of examiners can say that the conductor of the trials departed from his sphinx-like attitude of stony impartiality on those occasions. It cannot be said by any of those gentlemen that their guide, whose duty he felt was to register and not to judge, ever by word or act gave any indication of personal views in favour or disfavour of the products of any individual, home or foreign, gardener or amateur, large trader or small, at any time or in

reference to anything whatsoever. Mr. Barron was ready to answer questions in his clear, crisp way, and to give his opinion on any moot point when requested; but as to pushing his views, or attempting to influence a decision, such an idea has only to be suggested to be scouted as equally foreign to his nature and inconsistent with his high sense of duty.

No doubt, and we think in more than one instance it has been so, that Mr. Barron was the scapegoat who had to bear the assumed sins of the examining committees, but it is all the same the truth that those committees have always been responsible for pleasing the various persons whose products they have honoured, and disappointing others through the non-detection of the requisite merits in products for placing them in a similar position. Yet whatever the imagined shortcomings on the part of the adjudicators and the Superintendent, it is no small testimony to his integrity to find so many, whether they may at times have felt temporarily aggrieved or not, joining in the splendid tribute to the oldest official of the Royal Horticultural Society, both as a gardener and as a man.

Mr. Barron entered the service of the Society, we think, in 1857, and won his way by merit to the highest position in the gardens which he managed so long and so well. It may not be inappropriate to note that on his first arrival in England from the north of Scotland he found employment in the gardens at Orton Longueville, near Peterborough, and, as is indicated on another page, he is remembered there still after a lapse of forty years. He passed from there to Arundel Castle, serving for a time under Mr. McEwen. From Arundel he went to Shrubland Park, the gardens of which were made famous by that remarkable man, Donald Beaton. During this period changes were made at Chiswick, and Mr. McEwen was appointed Superintendent there. Having tested the quality of the young Scotsman, the new Superintendent found him employment in the gardens, and he had to take his share of work with the rest of the then large staff, for there were in those days extensive pleasure grounds and shrubberies to keep in order.

If we are not mistaken it was the excellence of the work of the young gardener in comparison with that of more than twenty other men that won for him the first step upwards. It was somewhat in this way. Twenty-five men were sent to make the lawn smooth and trim. Those who could use scythes were to do the cutting, and those who could not were to use besoms and do the sweeping. The new comer did not fall into line with the besom brigade, as not only could he wield the scythe, but when the lawn was finished his work was not only pronounced good but so far superior to that of all the others that he was at once granted an increase of 3s. a week as well as marked for promotion. As might be expected, a young man who had taken such pains to master the scythe was not likely to have been negligent in acquiring deftness in other gardening operations. The results appeared to show that he had taken pains to do everything well, and thus he worked upwards by sheer force of ability, coupled with a modest and agreeable demeanour, till he was installed in the position of Superintendent. As such he formed and planted the present gardens at Chiswick, and conducted them to the satisfaction of successive Councils and Committees for a number of years.

During at least a portion of the time Mr. Barron often worked under great disadvantages, and had to encounter many impediments. There have been members of the Council who had no sympathy with the Gardens, and it is well known that gentlemen have been entrusted with the conduct of the Royal Horticultural Society who did not visit Chiswick even once a year, if at all. Under such circumstances it is not surprising that the routine methods became lax and loose as between the senders of novelties for trial, the central authorities, and the Garden Superintendent. We happen to know without being told by Mr. Barron that things good, bad, and indifferent have been sent to Chiswick for trial at

all sorts of unseasonable times and in a delightfully easy and promiscuous manner, as if the senders had the absolute right to have them specially grown and to receive special reports—favourable, of course, for their gratification. We suspect it is no secret that seeds of varieties of different kinds of vegetables unnamed and unproved have been sent to Chiswick to be tested on the chance of one or more being so lucky as to get honourable mention. We do not hesitate saying that such a practice is an abuse of the privileges offered by the Royal Horticultural Society in its thus being expected to do such rudimentary work, either to save trouble on the part of those who ought to do it themselves or to gain a season for personal advantage.

We know again without being told, because it has been obvious to all who had eyes to see and opportunities for using them in this reference, that there have been frequent infringements of the good old rule that all varieties sent for trial at Chiswick should be named, and by those names stand or fall. The practice of sending unproved seedlings, or what not, under numbers, and thus imposing on the Society the trouble and expense of testing them is a devolution of private duties to a public body that many persons think can only be defended on the principle of "heads I win, tails you lose." All such loose methods, together with various kinds of "expectations" involved therein or therefrom, cannot but have made the duties of the Superintendent more onerous than they need have been, and may have resulted, for aught we know, and which might naturally be expected, in various kinds of perplexing misunderstandings.

If the retirement of Mr. Barron will lead to the formulation of precise rules for the conduct of the gardens, and the guidance of persons who are legitimately entitled to their use in the interests of horticulture, then may he rest and be thankful. He has served the Society well over the greater part of his life, and we apprehend that he would be the first to admit that as regards the terms of his retirement the Society has accorded to him fair, not to say generous, treatment. The value of his work has been formally recognised in the grant to him of the first large silver Veitch Memorial medal ever offered to any individual for services rendered in horticulture—an official presentation by the President of the Royal Horticultural Society in public on the occasion of one of the Temple shows a few years ago. And now the British public, or many of those who know Mr. Barron the best, have also borne eloquent testimony to the esteem in which he is held by a presentation which, so far as we remember, is, with one exception, of the greatest value ever made to a gardener as such, the exception being Mr. Bruce Findlay.

Reverting to the Royal Horticultural Society, it will at least be fair to say that whatever its shortcomings, it has set a noble example to the affluent in the treatment of trusted and faithful servants who have spent their lives in the honest discharge of duty. The Council has bestowed on the Society's oldest official such honours as were at its disposal, besides making substantial provision for him during the eventide of life. It is, of course, known that the means of livelihood have been afforded by the kind-hearted and well-to-do to many a retired gardener and gardener's widow; but it is said that "corporations have no souls." This does not hold true of the Royal Horticultural Society. Its worthy action, moreover, brings to the fore another matter that is, perhaps, not so fully recognised as it should be.

Men who occupy public positions, or even private positions in prominent establishments, may have, as they ought, salaries that seem quite fair, and to some generous—sufficient, in fact, for current needs; but in such positions there are demands on the hospitality of such gardeners which amount to a more serious tax on their resources than is by any means generally appreciated. Visitors from different parts of the kingdom, and not a few from beyond its shores, follow each other at not wide intervals, and British gardeners, as is their disposition, wish to accord them appropriate entertainment. On this account alone, and

however prudent the managers of gardens which enjoy a public reputation may be, they are, as a rule, precluded from making anything like adequate provision for the time that is sure to come, when they must for some reason or other retire from active duty.

In the case of Mr. Barron his retirement, fortunately for himself, has not been deferred to a period when it was rendered necessary by personal incapacity, but still, as we have said, he gave to the Royal Horticultural Society the best years of his life, and during that time no inconsiderable portion of his earnings must of necessity have been dispensed outside the area of family necessities. This the governing body has recognised and thoughtfully made provision accordingly, so that their friend and fellow worker will not be deprived of the means for insuring him the comfortable livelihood to which he is entitled, and in this respect a commendable example has been set that it is hoped will not be entirely without influence in making the later days or years of other gardeners enjoyable, who have spent their lives in contributing to the interests and happiness of those whom they have served long, faithfully, and well.

Mentally and physically strong, Mr. Barron cannot be said to have passed the stage of ripened manhood. He may still be useful to many in many ways, and the longer he enjoys the provision that has been made for him the greater will be the satisfaction of his numerous friends, including, we are sure, those who are responsible for his retirement and for the conduct of the affairs of the Royal Horticultural Society. Whatever may be said from time to time against this and that phase of policy it cannot be said that the Society is churlish in dealing with its employés, but treats them fairly and considerately, according them a reasonable share of increasing prosperity.

A few years ago we engraved the portrait of Mr. Barron, and as he has happily changed but little since then—nothing beyond having a trifle more silvery polish; and as old friends like to see him as often as they can, and as others who have not met him may like to see what manner of man he is, the time seems appropriate for affording them the opportunity. A glance at the portrait on page 375 will not, we apprehend, so much conjure up feelings of compassion, as for a man weary and wan, and worn to a skeleton by anxious care, as to rather indicate health and equanimity; and moreover, we should not be very much surprised if it does not bring to the surface the expressive old formula, "there's life in the old dog yet," as indeed there is, and many will share in the hope that the life may be a long one.

We should like in connection with the presentation, which will be memorable, and a distinct record in the annals of horticulture, to recognise the services of the active members of the Presentation Committee, and to accord a well-merited meed of praise for the zeal, judgment, and industry displayed by Dr. Masters, Mr. W. Marshall, Mr. H. J. Veitch, Mr. B. Wynne, and others who have so successfully laboured to bestow a tribute of esteem on the part of British horticulturists on one of the most capable, best known, and most respected gardeners of his generation—Archibald F. Barron.

THE GLORIES OF APRIL.

THE season of retrospection and preparation has passed, that of activity for the earnest horticulturist has begun. Nature herself has not been inactive during the flowerless period that, before the rush of vernal sunlight so patiently anticipated, has vanished from our consciousness into the regions of the past. The process of root formation, essential to the existence and perpetuation of our fairest flowers, has been silently going on, for Nature's greatest efforts and achievements, her most marvellous transformations, are accomplished in repose, and already we are reaping the shining harvest of such unseen, yet unremitting energies, in the varied splendours of the Tulips and Narcissi, the rapid vigorous growth of the majestic Eastern Lilies, the brilliant foliage of the Roses, with their new-born flower buds, full of latent fascination for the summer that is to come. Thus it is that no season of the year,

however instinct with beauty, is so full of virginal freshness, life, and brightest hope.

Yet it is not a period of continuous peace. Winter still lingering often chills the heart of April, and comes on us suddenly with icy northern winds and glistening snowy showers, but it is encouraging to the spirit, thus unexpectedly darkened for a period, to behold how heroically our fruit trees, laden with the blossoms of the Almond, the Pear, the Cherry, and the Plum, withstand those terrible blasts. In my own adequately sheltered and protected garden the flowering trees I have named, of which there are many, have, as yet, been little influenced by the crucial weather which for some days recently prevailed. The numerous Apple trees were not then in blossom as they are now, otherwise their floral treasures might have severely suffered by reason of their great height above the ground. On the other hand, the high winds have practically "cut" many of my Hyacinths and Narcissi, to the great loss of the garden, but most assuredly for the benefit of the house. They adorn no more the borders, but they decorate in a highly artistic manner the rooms of the manse, and fill them with a delicate, yet penetrating fragrance, which comes to the consciousness ever and again like the "odours rapt from remote Paradise," of which Tennyson sings.

Of the Narcissi which I have at present in flower, the most attractive are *Narcissus ornatus*; *Horsefieldi*; *Barri conspicuus*, the queen of hybrid Narcissi, of rich primrose colour, with a central carmine-orange crown; *Burbidgei*, which bears the name of a gifted naturalist; *albicans moschatus*, the great Spanish Daffodil, silvery white, suffused with palest lemon; and that highly distinctive, almost miniature, beauty the Queen of Spain. These, gracefully fronting a long line of Japanese and American Magnolias, which include *hypoleuca*, *obovata*, *Watsoni*, *stellata*, *parviflora*, *robusta*, *purpurea Lenné*, and *Soulangeana nigra*, and encircled by stately Hyacinths of varied hues, have produced in borders with a south-western aspect commanding effects.

But such is the wealth of fruit blossoms this season that we hardly require for garden decoration the assistance of other flowers. This is doubtless largely attributable to the heat of last summer and early autumn, whose beneficent influence thoroughly ripened the wood; but it is also to some extent the result of attention to their requirements long previously to the annual formation of the flower buds, which occurs, as all fruit cultivators are aware, at a very early stage. I anticipate, however, that there will be a universal blaze of varied bloom ere long—not only in our gardens, but also by our waysides, in our hedgerows, and in our woods. The Blackthorn is already in its fullest splendour, and looks from a distance as if covered with a shower of snow; and no sooner shall this transformation scene of Nature have disappeared than we shall have in our woodlands another vernal glory, not soon to be forgotten—the long hyacinthine blaze, beneath the overarching canopy of green. The tender hue of the Primrose, one of the sweetest and most fragrant of all flowers, glows like sunlight in the depths of our shadowy glens. The blossom of the Hawthorn, which was exceedingly rare in Scotland last year, is almost certain to be within the next few weeks as luxurious as the lover of Nature could desire, and that is saying much.

At present the predominating herbaceous flower is the Alpine Auricle, which has, in addition to its individualistic beauty, a fragrance that might be envied by many splendid Roses, such as *Baroness Rothschild* and *Merveille de Lyon*, and which is indeed peculiarly its own. In this direction, however, it has a formidable rival in the Lily of the Valley, which folds its snow white blossoms, like an emblem of humility, among its lustrous leaves.

Oriental Lilies promise to bloom very early this summer, as they are developing with much more than their normal rapidity. Several of these, and especially *auratum platyphyllum*, which is always a vigorous grower; *Henryi*, which has sometimes been called a yellow *speciosum*, though it is quite distinct from that species in foliage and in flower; *candidum*, the most classical of all Lilies; *dalmaticum*, an extremely dark Martagon; *chalcedonicum*, of lustrous scarlet hue, and its beautiful buff coloured hybrid *excelsum* (an invariably effective contemporary of the fair Madonna Lily, from which it is at least partially derived) are already half grown. Early blooming Roses, such as *Souvenir d'un Ami*, *Madame Lambard*, *Marie Van Houtte*, and *Gloire de Dijon* have flower buds sufficiently developed to unfold their potential beauty by the beginning of May.

But the atmospheric eccentricities of Nature at this season are sufficiently dangerous to convert, by one sudden northern blast of utter desolation, our brightest anticipations into the darkness of despair. At present, however, I am hopeful, for "the gentle rain from heaven," in the language of Shakespeare, is dropping beneficently on the place beneath.—DAVID R. WILLIAMSON.

NATURAL BALANCES.

Now and again, under some progressive phases of culture, we are reminded, disagreeably reminded, of the presence of certain latent retaliatory powers, which, though long tolerant of persuasion, may speedily resent being unduly forced. In our parching thirst for perfection some invisible natural law has, mayhap, been infringed, and one or other of those safeguards the beneficent Mother can on occasion employ relieves the strain imposed by a too aggressive hand. Comprehensively viewing this question—which is, at least, of some importance—it is not difficult to note a variety of means employed to this end; but it is harder to see, or to acknowledge, that present disappointment may yield future benefit.

There are a hundred things ready to point a moral on the case in question from such divergent factors as climatic interference to the more avoidable, or controllable, agencies which may be called upon to preserve the balance of nature when too heavy a demand is made upon the credit side by overcropping. Obviously, the text covers an area embracing much more than fruit, but it is to fruit only, and principally hardy fruits, these brief thoughts are concerned with, for this appears to be a leading question of the times—the gardening times, and will probably remain so till the end of the chapter.

Overcropping is capable of various definitions. In the general acceptance of the term it, of course, means more than an average crop, but in others it may be considerably under, and even then result in a heavier overdraft by reason of constitutional debility or inadequate sustenance. This phase of the question—feeding—has been so prominently and persistently treated on in these pages by those better qualified to do so that a passing notice is sufficient here, yet from its pre-eminently vital importance it will not, it is hoped, be allowed to lapse. The question here presented is how far we can physically control or equalise our annual returns, which are apt to show such fluctuating balances. Whether these are or are not unavoidable, they are certainly unsatisfactory.

In the first place we may note occasional phenomenal crops, when both quantity and quality are conspicuous, directly traceable to an exceptionally favourable season from start to finish, indirectly to a strong reserve fund previously accumulated. Such an apparently happy state of things appears to be the climax of the fruit grower's desire; or, from a superficial view, will be the conclusion arrived at. Quantity and high quality can leave but little, or, indeed, nothing to be desired (with prices we are not now dealing). Well and good; but as the year of fatness is invariably followed by one or more lean seasons it behoves us to pause and consider how far we are responsible for this pawning of the future to supply the present. Taking into account, and perhaps we seldom do take into account, the heavy tax placed by horticulture on Nature in any or all of our popular fruits, with their various improvements; each of which, so far as the produce is concerned, generally means an additional burden to the bearer; it is easier to realise what the consequences may be even in those instances where the ministering hand readily supplies the sinews of war, if the same hand withholds the wholesome and necessary correction.

Nature has, of course, her own arbitrary methods of accomplishing those ends, which seldom meet with our approval; hence, to circumvent these, a perpetual warfare is waged against them. Seeing how much we are able to accomplish by various means which may be termed high culture, there yet remains the exercise of those controlling powers which may be termed sound culture—a system which prolongs the powers and endurance of our permanent fruit-bearers over many seasons, and allows them to have a reserve of strength and vigour to cope with the unkindly influences to which they are so frequently subjected. Looking back to that glorious summer of 1893 with its phenomenal fruit crop (I speak from local experience and personal knowledge only), the question is opened up how often, under similar favourable atmospheric conditions, would, or could, similar results be obtained?—that is, of consecutive annual recurrence. Scarcely to the second year, I think, unless prompt and timely measures of relief were given ere the strain was felt.

I do not think that in our day we, in this economic phase of gardening, are likely to be governed by sentiment, only so far as that is governed by public opinion, so there may be instances in which working the willing horse to death meets with approval, because it pays best to do so. But it is a policy which will, I think, seldom commend itself in private gardens. In these, with that willing worker the Grape Vine for instance, a short life and a merry one is hardly the desideratum. We not infrequently see, or hear, or read of such examples as appear to be marvellous—marvellous in their powers of endurance, and perhaps in their long suffering. Where this pays best that, of course, settles the matter locally. So far as Grape growing is concerned, and relevant to

private gardens, which, may be asked, is the safest and most satisfactory method of cropping? There are few gardens in which little or any allowance is made for partial failures, so far as fruit culture under glass is concerned, though some there are where these may be covered by a more liberal margin of means. The happiest system appears to me that in which undercropping rather than overcropping is carried out.

In illustration of this, one instance may be quoted of a famous old garden visited some years ago, where the superb condition of the Vines was not only remarkable but also the low pressure, as evidenced by the restrictions placed on the crop. Each robust rod (each separate Vine) was carrying about a dozen bunches of medium weight, containing all the points which constitute perfection. These Vines in the aggregate afforded the highest possible of satisfactory impressions—the impression of reserve strength. In fact, they held the relative position that a happy well fed worker does to some poor victim of the sweating system. To point the moral further, it may be added that all the fruit bearers, indoors and outdoors, were treated on parallel lines. I thought then, as I think now, that the balance was on the right side; and, moreover, it is from such places as this, in my experience at least, that we receive those good reports which appear so unaccountable when published contemporaneously with the black list of a bad season.

Possibly this wholesome restraint placed on Nature has farther reaching influences than appears at first sight. Showers and sheets of snowy blossom in early spring are very pretty, very poetic; but, as we too well know, may prove to be very delusive so far as the fruit is concerned, so vast is the discrepancy between the promise and the performance. Less promise and more performance would suit us infinitely better. It would, indeed, be hard to extract a moral from this unless we can, as I think we may, allow that Nature is, to some extent, reduced from this spasmodic cropping to something nearer to a system, drawn on a line between the heavy feast and the long fast, by a rigorous curtailment of the abundance when that occurs.

Means to this end are not solely confined to thinning the fruit, though in most cases it may be the principal agent employed. With some varieties cultivated in some places on a large scale that may, indeed, be practically out of the question. Judicious thinning of the branches, with the removal of weak, superfluous growth, as well as a considerable reduction of fruit spurs, where these are crowded, may at least help to check exuberance on the one hand, and carry forward some stores of energy to indifferent seasons, making up that deficit so keenly felt.—A WORKER.



DENDROBIUM CLIO, TYNTESFIELD VARIETY.

At the meeting of the Royal Horticultural Society held in the Drill Hall, on the 7th inst., Mr. T. Stafford, gardener to Fred Hardy, Esq., Ashton-on-Mersey, staged a small collection of Dendrobiums, including the one represented by the woodcut (fig. 62) and named D. Clio, Tyntesfield variety, to which the Orchid Committee awarded a first-class certificate. The variety is an extremely beautiful one and attracted, as in fact do all the Orchids from the same source, a considerable amount of attention. The elegant flowers are comparatively large, with long rather narrow sepals and petals which are clear rose in colour. The lip is a splendid feature of the flower, being rich rose on the outer portion with a large rich brownish crimson blotch towards the throat. There were several Orchids staged at this meeting, all of more than ordinary merit, but few attracted more attention or elicited more expressions of admiration than did this charming addition to an already beautiful family.

LYCASTES.

THE Lycastes form a very useful and beautiful genus that commends itself to beginners in Orchid culture or account of the ease with which they may be propagated or grown. There is hardly a species contained in it that the veriest tyro could not, if he were so minded, be successful with, while one or two at least are standard Orchids that the most select collection should not lack. The genus was founded by Dr. Lindley, most of the species being previously known and described as Maxillarias, to which they are closely related. All are natives of various parts of tropical America, but as many are found at considerable elevations they may with advantage be treated as cool house plants. The blossoms

usually occur on single-flowered scapes from the base of the last matured pseudo-bulbs, and as a rule they last a long time in perfect condition, if not wetted or bruised.

Propagation of the various kinds is effected by cutting through the rhizome between the pseudo-bulbs, this being better done some time in advance of separating the pieces, though not absolutely necessary. They like a fairly substantial root hold, and will do well in equal parts of peat fibre, light fibrous loam, and chopped sphagnum moss. Plenty of hard material, such as charcoal or crocks, must be mixed as potting proceeds with the above ingredients, and many growers use partly decayed leaf soil in place of peat for the stronger growers, such as *L. Skinneri*. They do best in all cases in pots, the drainage requiring careful attention and the surface of the compost finishing below the rims, not elevating the plants as in the usual run of epiphytal Orchids. If the old compost when repotting is in good order there is no need of disturbing the plants much at the roots, simply removing a little of the surface soil and cutting out dead or far-gone roots that are no further use to them. Fill up with the new material and press this firmly with a blunt dibber into place, allowing the base of the bulbs to rest on the surface.

Newly imported plants are easily established in the usual way, and if in good condition may be potted at once, only using a thinner layer of compost than usual and mixing in plenty of crocks and charcoal. If on the other hand they are much shrivelled they will be better potted in clean crocks with a thin surfacing of sphagnum moss, adding the compost directly they are well plumped up and before new roots are emitted. All imported plants are benefited by a slightly higher temperature than usually advised for well-established ones, at least for the first year. The foliage of *Lycastes* though of an enduring nature is easily injured by either bright sunlight or insects, brown scale and red spider being the most frequent to attack it. They should not be allowed to make headway, but as soon as any suspicions of them are seen each plant must be separately and carefully sponged with soapy water for scab and red spider, or tobacco water for thrips.

They are among the best of Orchids for room decoration, the flowers lasting well, and unless their stay is unduly prolonged the plants take but little harm. The golden-yellow *L. aromatica* is a capital plant for the above purpose, the individual blossoms being small but very freely produced, and as the specific name implies, pleasantly scented. *L. costata* is another fine species of a distinct and novel character. It is not so well known as it deserves to be, and is an excellent plant for flowering early in the season. The blossoms appear in January, and are produced singly on the scapes, the sepals and petals being creamy white, the lip pure white with a deeply fringed margin. *L. cruenta* closely resembles the first named, but is larger in all its parts, and not quite so deep in colour.

L. Deppei is an older kind, still worth growing on account of its distinct colouring and free flowering propensities. It is not a large grower, resembling *cruenta* somewhat, and bears flowers about 4 inches across, the sepals creamy white in ground colour with markings of purple, the petals pure white. The lip is clear yellow dotted with crimson. The variety *punctatissima*, as its name implies, is covered with minute dots of crimson purple, doubtless a geographical form, being found in Guatemala, the type coming from Mexico.

L. Harrisoniæ, perhaps better known as a *Maxillaria*, is a beautiful plant that deserves much better treatment than is usually accorded it. It has rough green pseudo-bulbs tapering towards the top, and, unlike most other members of the genus, frequently produces twin-flowered scapes. The blossoms are thick in texture, very lasting, and agreeably scented. The sepals and petals are creamy white, changing with age to yellow, and the lip yellow at the base, purple in the front, and lined all through with reddish purple. Another and more popular species is *L. plana*, a native of Bolivia. It is an interesting and rather showy flowered kind, the sepals being white blotched with crimson, the petals dull red. The lip varies considerably in colour in the different forms, that of the typical form being white freckled with crimson.

The well-known *L. Skinneri* is at once one of the most useful, easily grown, and freest flowering of Orchids, thriving well under the most ordinary cultural conditions, yet well repaying careful attention. It is perhaps the cheapest kind in existence, consequently amateurs may purchase freely on the chance of obtaining good forms. In the type the blossoms are some 5 inches or more across and produced singly on the scapes, as many as a dozen being sometimes produced from a single bulb. The sepals and petals are rosy white, the lips similar in ground colour, and plentifully spotted with rich crimson. Varieties almost without end are recorded, ranging in colour from pure white in var. *alba* to the deepest crimson rose, and each and every one of them are first-rate garden Orchids.—H. R. R.

ORCHIDS AT CLARE LAWN.

VISITORS to the meetings of the Royal Horticultural Society at the Drill Hall will be familiar with the name of Sir F. Wigan, Clare Lawn, East Sheen, and with that of the Orchid grower, Mr. W. H. Young, as rarely an occasion passes without something worthy of note being exhibited from Clare Lawn. Such being the case it was with pleasure that an opportunity of seeing the plants at home was seized because it was hoped and expected that something good would be found. Two "something goods" were seen—namely, good flowers and good culture, proving that the grower is conversant with the many cultural details. Not that all thrive equally well, but there are really very few to which one could take exception.

The collection, which requires nine houses for its accommodation, is of fair size and finely diversified, all the leading kinds being

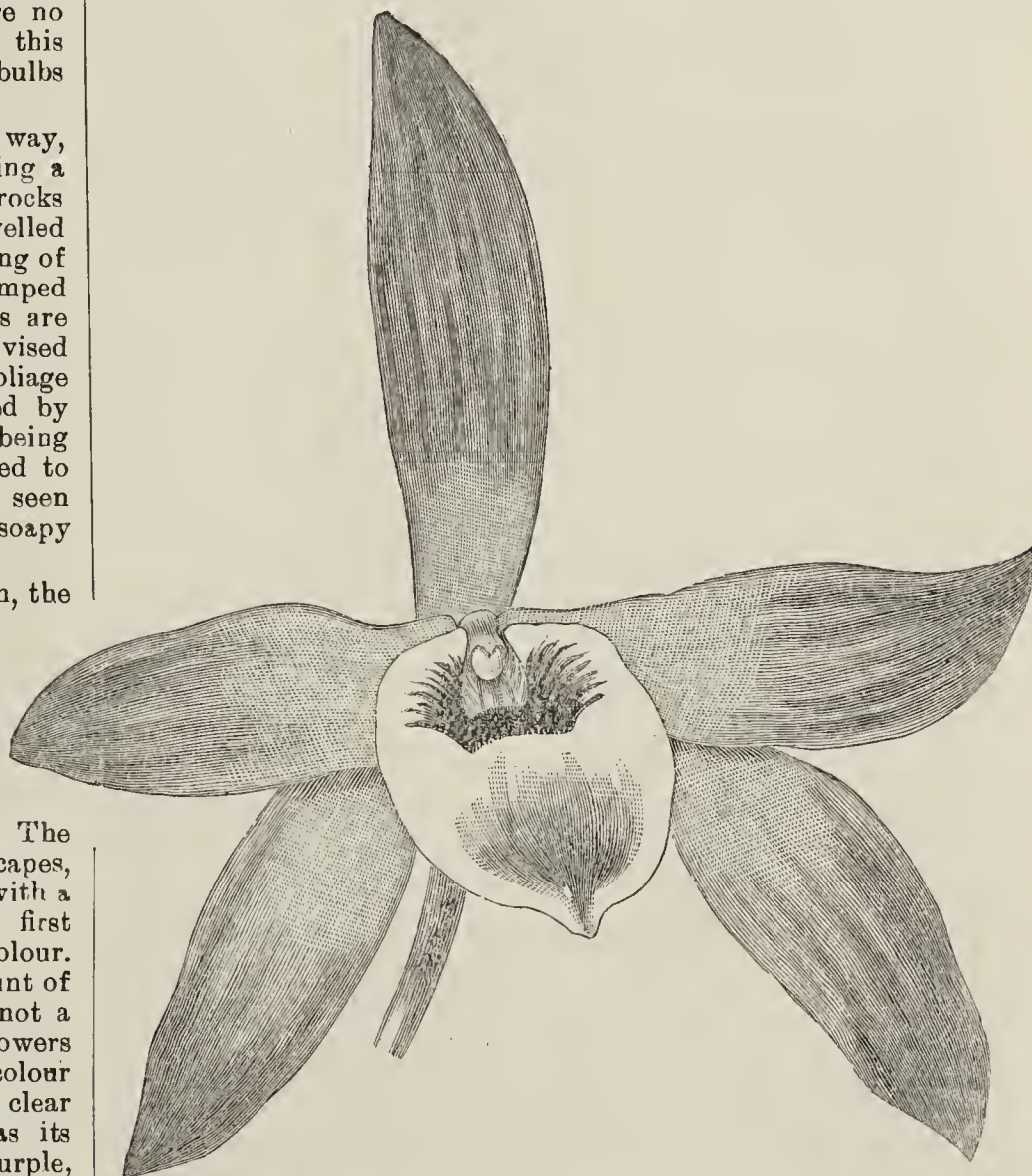


FIG. 62.—DENDROBIUM CLIO, TYNTESFIELD VARIETY.

represented in larger or smaller numbers, according to their favour with the owner. Fresh plants are constantly being added to the stock, and these are procured through all the recognised channels, consequently it may be expected that at some future time, if all is well, the Clare Lawn Orchids will be even more widely known than they are at present, and that they will become amongst the most noted in the metropolitan area. Given a maintenance of the gentleman's love and appreciation of the flowers, and a continuance of the grower's ability in their management, no legitimate reasons can be found why the surmises in the previous sentence should not prove realities in coming years.

Entering one of the structures we find ourselves in the midst of the *Masdevallias*, all in excellent health, but of course only a few in flower; but they are in that condition that tells what has been, and which holds such promises of what will be. Of those in flower *M. Shuttleworthi* and its distinct variety *xanthocorys* were charming. In the next house, divided from the first by a glass partition only, are a few plants of *Odontoglossum crispum*, some in and others out of flower, and several little specimens of *Odontoglossum Oerstedii majus*, having a considerably larger number of the white fragrant flowers than leaves. These are much more flourishing than the *crispums*, which have not yet been found a perfectly congenial position.

Baskets by the score cover the roof of a large span-roofed structure, in which *Dendrobiums* luxuriate, and many *Cypripediums* seem to be quite at home. Of the former, not in this house alone, there are *velutinum*, *fimbriatum*, and *fimbriatum oculatum*, all very beautiful, as also are *Brymerianum*, *primulinum*, and others. Half a dozen plants in flower of *Cypripedium niveum* form a charming picture, while the bed of *C. barbatum* and *C. b. delicatulum* in the *Phalænopsis* house is highly attractive. Amongst the other *Cypripediums* noticed were *Chamberlainianum*, *Rothschildianum*, and *concolor*. The *Cypripedium bellatulum album*, which was figured in the *Journal* last year, was sent in a healthy condition. There were many plants of *Dendrobium Phalænopsis* carrying grand spikes of flowers, as also were a couple of plants of the chastely beautiful *Eulophiella Elizabethæ*.

It need hardly be said that a considerable amount of space is devoted to *Cattleyas* and *Lælias*, and the splendid condition of the plants proved how well they were grown. In flower were *C. Lawrenceanum* (a fine dark form), *C. citrina*, some charming varieties of *Trianae*, some named, such as *C. T. Schroderæ*, and others unnamed. Singularly attractive were plants of *Aeranthus* (*Angræcum*) *Leonis* and *Angræcum modestum*, while *Trichopilia suavis alba*, described by Lindley "as a delicious Orchid," was no less charming; one plant of this was carrying fourteen fully developed flowers. In contrast to all these was *Spathoglottis Kimballiana* with its conspicuous yellow inflorescence.

Occupying a structure almost entirely to itself is a collection of *Phalænopsis*, in a condition which reflects the very highest credit on the grower. Instead of the flabby, thin leaves that characterise the plants in some establishments, one finds here dark foliage that to the touch seems like so much leather. The roots, too, are well in proportion to the leaves, and cling to the wood of the baskets in which they are growing as if they there found food which just suited their requirements. It cannot be wondered at that such plants as these produce flowers of the very best form, colour, and substance; nor that their grower is proud of them. Plants of such kinds as *Luddemanniana*, *Schilleriana*, *Schilleriana vestalis*, *amabilis*, and *Sanderiana* were particularly conspicuous. In a little glazed corner just outside the *Phalænopsis* house *Barkerias* simply luxuriate, though at the present time they are, of course, quite at rest.

So far as attractiveness is concerned a house built up inside with rocks and occupied by plants of *Cymbidium Lowianum*, *Cypripedium insigne*, and Ferns, must be accorded the premier position, as it presents a sight such as is rarely seen. The *Cymbidiums* now form the display, there being one dozen specimens carrying upwards of 1000 flowers. The greatest number of spikes on one plant is fifteen, on which are 295 perfect flowers, the greatest number of flowers on any one spike being thirty-two. Each plant is staged so as to show to the best advantage, and the effect is remarkable. The blooms, generally speaking, are large, and the colour in almost all of them is fully developed. Both the *Cypripedium insigne* and the Ferns are in the best of health, while at the end of the house is a tiny stream in which gold fish disport themselves.

Many other Orchids are grown as well as those that have been mentioned, but these must suffice for the present notes. Worthy of mention, as probably conducing to a very appreciable degree to the excellent health of the stock, is the cleanliness that prevails in each of the structures; plants, pots, woodwork, glass, and floors all alike prove that constant attention is devoted to this phase of Orchid culture. The system of labelling, too, is a very good one. Circular earthenware tallies are used, on the face of which is clearly written the name of the plant, while at the back is noted the date and source of purchase. These are practically indestructible, and have at the same time a neat appearance that is in perfect harmony with the surroundings. In conclusion thanks must be accorded to Mr. Young for his courtesy and trouble in conducting the writer through the interesting collection of Orchids at Clare Lawn.—W.

FLORAL FACTS AND FANCIES.—18.

WE cannot help wishing that the Selborne Society, and other organisations, having as one of their objects the preservation of our wild flowers from reckless spoliation, had sprung into existence sooner, for they might have done somewhat towards keeping in their native haunts many of those species, which by wholesale gathering have become very rare, or even extinct. Of the various groups of native plants, none, perhaps, has suffered more at the

hands of dealers and collectors than the Orchids. No doubt some of them, as being partial to sheltered spots, like woods or copses, must have inevitably become scarcer these recent years owing to the clearing of so much land formerly wooded. Marshes, too, that used to be profuse in Orchids have been dried and cultivated.

Hence at the time the popular names attached to various species took their origin, the plants were more numerous and noticeable to country folks than they are now. Partial to shade, they often require careful seeking, though some are markedly conspicuous, but few flourish where the trees are so dense that scarcely any sunshine enters. We observe how frequently they occur above the chalk and in loam; the meadow species also seem to prefer pastures that are not too moist yet warm. Some Orchids choose the slope of a hill.

Fancy has seen in various Orchids resemblances to insects and other animals, which sometimes are obvious enough, but a good deal of imagination may be required to picture the object which a flower is thought to represent. One of the most historic, if less singular than some, and long associated with the advent of spring, is the early purple or Male Orchis (*O. mascula*), well forward in such an April as this is. With sundry very diverse species it shares the name of "Cuckoo Flower" also, though that has been much debated; it seems probable this was the "long purples" of Shakespeare. Its rich purple hue made it symbolic of "beauty," and others of the tribe have had the same meaning given to them, but we might regard Orchids generally as illustrative of eccentricity or singularity I should say. Occasionally the Male Orchis is found with pale lilac flowers, and the lower lip white. It has the peculiarity, too, of being usually scentless, now and then slightly fragrant, this turning disagreeable at dusk. Perhaps the commonest of our natives, yet run closely by the allied *O. morio*, having unspotted leaves and side sepals of green, hence it is called the Green-winged, the Female, and, oddly, the Fool's Orchis.

Scarce now, but found in some chalky woods, is the brown-winged *O. fusca*, or, poetically, the Lady Orchis; it has been thought handsomest of our British kinds, the finely spotted flowers of purple and white forming a sort of cluster on a stem 2 feet high or more, but the leaves are few, though large. We could hardly say the plant has a lady-like aspect, pretty as it is, still it has been supposed to be an emblem of "capricious beauty." Modern botanists incline to think this is only a variety of the Military Orchis (*O. militaris*) which has the calyx grey, not brown, and with long points, occurring in similar localities. But why did Linneus give it this name? Perhaps an array of these Orchids along a grassy mead in Sweden seemed to resemble a line of soldiers, or else the form of the calyx suggested a shield or helmet. Both these have when dried the scent reminding us of the Woodruff and Melilot.

Then there is a third, now very rare, called the Monkey Orchis, or *O. tephrosanthus*, which is probably the same species, but rather smaller; it is not particularly like a monkey. Nor can we consider the still rarer *O. hircina* a close copy of a lizard, though thus named. The flowers, however, have a curious appearance, and it is one of our finest natives, a spike having sometimes sixty flowers of green and purple; unfortunately the smell is disagreeable. The Pyramidal Orchis, named from the shape of its dense spike, is a contrast, having a pleasant perfume both night and day; the flowers are crimson, occasionally dull white. Small in size, growing on chalky downs, is the Burnt Orchis (*O. ustulata*) or Dwarf Brown-winged, the thick spike of which has numerous flowers, which look scorched or burnt, the calyx being brown, dotted with black.

Two species that are now and then grown in gardens on sheltered banks have palmate roots. *O. maculata* has spotted leaves, and the flowers of pale purple have dark streaks and dots; the other, *O. latifolia*, has broader leaves, and flowers usually of a deeper colour. Both at one time were called "Palma Christi," and regarded as plants in some way sacred. A third palmate species, now placed in a different genus to the preceding, is the Fragrant or Gnat Orchis (*Gymnodenia conopsea*), which diffuses a fine aromatic odour, resembling that of the Clove Pink. Its many-flowered spike is crimson, but the small, spreading petals are not much like the wings of a gnat. We find it along moist meadows, where also grows appropriately the Frog Orchis (*Habenaria viridis*), with flowers of green or greenish yellow, but variable in tint, and certainly singular. The idea of their resembling a frog or some batrachian is an old one, a likeness to a mouse has also been suggested.

North and South of England woods may yield the conspicuous *H. bifolia*, the Butterfly Orchis, scarce now, as it has been searched for too diligently. Sufficiently well known to have been taken to symbolise "gouty," the flower is really to be compared to some sort of moth rather than a butterfly. (Amongst exotic species, however, the resemblance to a butterfly is most marked, in some instances.) Ours has a tall spike, on which flowers are sparsely

distributed, creamy, with a little green on lip and spur. Towards evening they have a perfume reminding us of Honeysuckle.

Then there is the allied *H. chlorantha*, more partial to open places, and the northern, white, cluster-rooted *H. viridis*. Green also is the chalk-loving *Aceras anthropophora*, the Man Orchis, having insignificant unspurred flowers. "If like a man at all it is a hung criminal," writes one. Yet another says that by the aid of a little imagination the flowers look something like a number of diminutive helmet-crowned knights. The green colour is chequered with brown, and possibly, after all, it approaches some small insect most. From this we naturally pass to the genus *Ophrys*, the name of which refers to the juice of some of these plants, which the Roman ladies are said to have used as a dye. Prominent amongst these is the Fly Orchis, *O. muscifera*, which was formerly common on loam over chalk, with lilac purple flowers, which really do mimic a cluster of flies settling on the stem.

The Bee Orchis, again, *O. apifera*, by its brown streaked lip reminds us of the body of a large bee, and the calyx suggests its wings. Symbolic of "diligence," from its resemblance to the bee, its scarcer relative the Drone (*O. fucifera*) owns a somewhat similar aspect, and has been taken to represent "error," though not specially like those useless members of the bee family. Some fancy is needed to see a spider in the Spider Orchis (*O. aranifera*), but the odd flower resembles an insect of some sort. This is an early species, its flowers few, greenish, the lip brown and hairy. Then we have another Spider or Cobweb Orchis (*O. arachnitis*), which blooms much later, and has brown flowers tinged with blue. Upon chalk grows sparingly the Musk Orchis (*Herminium monorchis*), a small plant, emblem of "sweetness," since it smells both of musk and honey. The flowers are in a little thick spike, giving some attraction to various insects, and are of curious shape.

Later than most species is *Neottia spiralis*, flowering about August, so named because the white and green flowers turn to one side of the twisted stem. It has been supposed that it was called "Ladies' Tresses" from a fancied resemblance to a coil of hair, but the original was Ladies' Traces. Dr. Hooker states it is a fragrant species. "Win me and wear me" is the quaint motto belonging to the Ladies' Slipper (*Cypripedium Calceolus*), a northern plant, having large leaves and a stem bearing at the top not more than two flowers, slipper-like in form, brown and yellow. Deep in woods hides the Bird's-nest Orchis (*N. nidus-avis*), the flower resembling a drooping Oak leaf. The stem is scaly, and the fibrous tangled roots suggested the name it bears. Common about woods, too, is *Listera ovata*, the Twayblade, having only a few leaves on the stem, which is crowned with a cluster of little green flowers.—J. R. S. C.

GOLDFISH.

THE most beautiful denizen of ornamental water, whether indoors or outside, is the golden carp (*Carassius* or *Cyprinus auratus*), found in the fresh waters of China, and distinguished for the splendid golden colour of the membrane lying immediately beneath the scales. But the species is subject to the most singular variations in colour; indeed, there is every variety of shades of gold, black, or bronze black, those shades intermixed with silver, pure silver (in this stage known as the silverfish), pure gold, and bright golden orange. As an article of food they are not used, and are only valued for their beauty and gentleness, being very commonly kept in vases or aquaria indoors as an ornament, also in conservatory fountain basins, and miniature ponds under glass, likewise in ponds or lakes outdoors.

Goldfish was introduced from China in 1611, and in this country very rarely exceeds 9 inches in length; the body is full and subcylindrical, the scales large, and the fins are without spinous rays. Individuals are sometimes met with which want the dorsal fin, and others that, by the uncommon dilatation of the eyes, appear very much deformed. They are very prolific and are easily bred, requiring scarcely any further attention than that of changing the water frequently, but this only applies to circumstances in which they have abundance of natural food, for when "pinched" they display cannibalistic propensities, as shown by the following excerpt from a letter recently received:—

"After a lot of blundering I can state from experience the way to manage goldfish. Six years ago we had over 100 in the fernery pond, and through irregular feeding and there being no aquatic plants, the females were attacked, not only by the males, but the former amongst themselves for the spawn (ova), eating through the ribs and in some cases half the fish from the tail end. Every summer went on in that style until only eleven fish remained, and these had not grown in six years what they should have done in one season. Last spring (1895) they were transferred to the new aquatic pond (outdoors) with abundance of natural

food, and are now (March 20th, 1896) at least 9 inches in length and have bred into the bargain. In the fernery pond they lived on the green slime at the bottom more than anything else.

"In place of the golden carp we introduced a new and superior aquarium fish, Golden Arpe (*Tenciseus' arfus*), which grows more rapidly and attains a larger size, orange in colour and silver underneath. This species has a peculiarity of darting silver side upwards and thus resembling a flash of lightning in the water.

"We now feed the fish in the fernery pond with raw beef cut into thin strips to resemble worms, worms, ants' eggs (so called), but the best food is vermicelli."

Golden carp (*Carassius auratus*) or its variations, the silver fish, bronze-black, gold bronze-black and silver intermixed, and orange golden should be kept upon the following principles or rules:—

1, In glass globes, vases, or small aquaria. Fresh water every day, wholly or in part, always some, and if possible running. When the fish swim with their noses close to the surface of the water it is evidence of crowding or impure water (for fish), and the cause must be removed or the defect rectified without delay by giving fresh water or proper space.

2, Provide shade against sun either by keeping them away from the sun's rays or by means of aquatic plants. The best aquatic plant for small aquaria is *Vallisneria spiralis*, commonly called Eel Grass or Tape Grass, long or short in the leaves as the water is deep or shallow and narrow. The pollen-bearing flowers are borne on short peduncles and are sessile on a conical axis. At the flowering period the seed-bearing peduncle gradually lengthens, so that the flower finally rests on the surface of the water. Then the male submerged flowers detach themselves spontaneously from the peduncle and rise to the surface, whence the male element, by its inherent energy joins issue with the seed bearer and transmits the racial form, giving life and a continuation plant or plants in embryo. After fertilisation the peduncle of the seed-bearing flower contracts spirally, and the ovary descends to the bottom of the water to perfect its seeds. Another favourite aquarium plant is the Water Milfoil (*Myriophyllum spicatum*). Best of many for outside ponds is the Floating Heart (*Limnanthemum* or *Villarsia nymphaeoides*). Its golden cups bedeck the silvery surface in the summer and beneath the "floating hearts" Golden carp love to shade, indeed they are always under it in the summer, as also are the common carp (*Cyprinus carpio*, L.).

3, Never place large fish in small aquaria. The creatures are not only incommoded and do not appear to the best advantage, but are more likely to lack the needful air. Bad also is the practice of placing large and small fish together, as when the pinch comes the large are prone to turn cannibals and devour the weaker kinds.

4, In introducing additional fish to existing stock, or before stocking a pond for the first time, always keep the fish in quarantine for a few days, examining them daily, and promptly removing diseased specimens. It is better to do this, even if the whole have to be rejected, than begin with a tainted stock.

5, Always choose cold water bred fish, as such are hardier and healthier than those reared in warm quarters. Also give preference to stock from running rather than from still water, as such get purer air (for a fish) and more wholesome food, and as these are so is the fish in power of gill, sleekness of body, and strength of fin, and withal keenness of appetite.

6, Remember that the majority of golden carp becoming diseased and dying is oftener traceable to lack of fresh water and proper food than anything else. Never forget this, but act up to it, providing fresh water and sweet wholesome food with suitable environment.

7, Feed every day where there is no possibility of the fish acquiring food naturally. Vary the dietary, not stalling them by always giving the same food. Live worms (small, of course) give life to the pent-up creatures, which never lose their cunning for distinction between a living and a dead carcase. Even ants' eggs (so called) are snapped up in no time before the dry imported "stuff." Raw meat, beef or mutton, cut into small worm-like shreds is eaten with relish, but do not let it be tainted. Hard boiled yolk of egg suits fish, taking care to supply it in crumbs, casting them as the angler does the trimmed hook. But best of all food for goldfish is vermicelli (Italian, "little worms"), an Italian mixture prepared of flour, cheese, yolk of eggs, sugar, and saffron, and reduced into threads like worms, by forcing it with a piston through a number of little holes in the end of a pipe made for that purpose. No wonder such natural-like food in form is readily taken by carp, or that from its combined vegetable and flesh-like nature they thrive on it. Avoid overfeeding, for that is "neither good for man nor beast."

8, Outside ponds of good size and with plenty of aquatic plants, supply enough natural food for golden carp. It is stock over the number there is food for that necessitates feeding, and this is a matter for judgment.

9, Breeding fish is very interesting. It may be carried on in a small aquarium, always where there are some thriving aquatic plants. Spawning takes place in early summer, the ova being affixed to aquatic plants. The sooner the old fish are removed after spawning the better, as in confined space the old fish eat ova and fry too. The fry or young fish are very dark in colour or even black, acquiring gradually the metallic tints for which they are so much admired. Their food naturally consists of water fleas, the commonest being the well-known species *Daphnia pulex*, a tiny creature about 1.25 inch in length, but though so small it is the host of a fungus, the single spore (*Monospora daphni*), which is taken in by the mouth of the *Daphnia* and by another fungus which generally enters the *Daphnia* by openings made by *Monospora*, or through wounds made in the external wall (cuticle). Thus the small young fish have not altogether wholesome food in Nature, but then they have other sources of supply, as some water fleas appear free from both *Monospora* and *Saprolegnia*. The aquatic insect (so called) *Cyclops quadricornis*, is much relished along with the water snail (*Planorbis corneus*). This fleshy dietary is alternated with a vegetable one, fresh herbage having a peculiar charm for carp. Young fish grow best on the food they have to search for, and hardy ones are better, as before stated, for the stocking purposes than the daintily reared.

10, Goldfish sometimes become restless, darting hither and thither for a time and then appear more dead than alive, but all of a sudden jump out of the water. This is considered to have some connection with *Monospora* and *Saprolegnia* infested food, but of this there is no direct evidence, and probably arises from foulness of water as much as from badness of food or both. Such fish have been revived by pouring a little brandy, highly diluted with water, down their throats, or by placing them in water at a temperature of 90°.

11, Fungus may come from flies of various kinds, that on house flies being considered a stage in the development of the salmon parasite. What evidence there is of this it is hard to say, but it is very interesting to see the fly fungus shoot out its spores, which resemble shooting stars or comets with tails. The best thing for fungus-infested fish is to remove them to running water with a pebbly bottom, then the fish by pureness of air (for a fish), bracing nature of environment, and above all, sweet food with means of cleansing itself from overgrowth, does successful battle with the foe. Or to kill the fungus outright place the diseased fish in a tank containing a solution of chloride of sodium (common salt), a teaspoonful to half a gallon of water, keeping the fish in the solution until it turns on its back, then remove and place in fresh water. Repeat the treatment once or twice a day until the fish is cured. Whether goldfish goes to sea annually in its native China, like salmon and fresh water fish in this country, I am unable to say, as there does not seem to be any record, and when found in our rivers they are usually not far from the pond whence they have strayed.

12, As golden carp are cheap (4d. or 6d. per 100) there is much to be said in favour of the stamping out system when disease appears. But neither stamping out, nor anything else has a chance while the causes of the maladies abide, therefore pure air, suitable environment, food in proper measure, or better, natural means of furnishing it, which is largely influenced by stocking, overcrowding being the surest road to epidemic, are the best courses to follow in the seeking of avoidance from disease.—G. ABBEY.

CUCUMBER DISEASE.

"PHENYLE ADVISER" seems to have taken what he is pleased to call "the important communication" on this subject as an attack on the use of phenyle as a cure for eelworm. Nothing of the kind was intended when the communication referred to was written, and sincere thanks are tendered to "Phenyle Adviser" for having taken the trouble to record the result of such interesting experiments. It is difficult to know what the "Phenyle Adviser" expects to elicit in answer to the cases he mentions of, in the first instance, a healthy Cucumber plant, and, secondly, a Tomato plant being immersed in a solution of phenyle containing "197 defunct adult cysts or eggs" per drop, the latter failing in each case to communicate disease. What can any plodding gardener say about this wonderful stirring up of a dead enemy? "Phenyle Adviser," in his last paragraph, quotes a grower as saying that "nothing is of any use but Little's soluble phenyle, Jeyes fluid, or Calvert's soluble creosol against eelworm or sleepy disease." A little further on it is stated, "It is the free lime of the basic slag phosphate and chloride of the kainit that kill the eelworms or sleepy disease." The information is also vouchsafed that in the latter there is money. Then why not recommend these last two in preference to phenyle? Surely "Phenyle Adviser" is not afraid the advice may convert market growers into "bloated capitalists," nor raise to vulgar opulence a poor man like—BY-THE-SEA.

LONDON'S SPRING FLOWERS.

VICTORIA PARK.

IN taking even but a brief survey of the spring flowers in this great city at the present time, one looks at them from numerous standpoints and studies them under conditions as interesting as they are varying. In such a survey, too, there is ample room not only for watching Nature in her inanimate form, but also of marking the contrasting condition of the human beings who admire the flowers in all their richness of colouration, sweetness of perfume, and, generally speaking, simplicity of form. These striking contrasts came forcibly on my mind the other day as I strolled amongst the flower beds in Victoria Park.

Readers of the last issue of the Journal will note my wanderings through the Embankment Gardens, overshadowed by magnificent hotels and other buildings of the most elaborate formation, all appearing to point in the direction of wealth and power. From there to Parliament Square, situated in close proximity to the seat of government—or, in other words, the motive power that works with orderliness the intricate machinery of this great empire. And on again to the West End parks, the playground of wealth and fashion, and lying at the very doors of the mansions of the wealthy, many of which stand empty during the greater part of the year, only being inhabited in the season.

Now let us turn to my latest mission—seeing the flowers of East London; and here we surely have something soothing and gratifying. In mankind, and the works of his hands, we mark the contrast. On the one hand richly dressed people, fashionable houses, and a hundred other things pointing towards wealth; on the other mile after mile of narrow streets teeming with population, wretchedness meeting us at every corner; but I need go no further, as the same story has been told many times and is known full well.

But in the gentle and mysterious working of Nature there is no such contrast, for are not the trees as green, the grass as refreshing, and the flowers as bright almost within a stone's throw of all the crowded thoroughfares of Bethnal Green as those which adorn the immediate neighbourhood of Park Lane? Yes, they are, as a recent visit proved. So it will now be as well to look at the flowers from a gardener's standpoint.

Thanks to the London County Council and the able managing powers of Mr. J. W. Moorman, the Superintendent, who has certainly made the best of his opportunities, there seem to be flowers everywhere in the great Park that he manages. There is hardly a nook or corner that cannot boast of either nodding Daffodils, bright Hyacinth spikes, or Tulips, or clumps of the old favourite Polyanthus; this is a great feature when we come to consider the large area taken up by flower beds. The single Tulips must certainly be accorded the highest word of praise, as in point of numbers as well as quality they stand prominently at the front.

One would have to travel a long way to see finer masses of that most showy of all early Tulips Keizer's Kroon. In the large open space where the chief display is presented they are distinctly conspicuous, showy certainly, but though of a bright scarlet hue, not gaudy, as the surrounding colours blend and take off anything that might have proved too brilliant. Close by are beds of another favourite, White Pottebakker. How pure and pleasing they look amongst the complication of tints all round! they have certainly been accorded their proper position, as near at hand are the showy blooms of Vermilion Brilliant, correctly named certainly, and with the bright rays of April sunshine streaming on them one sees them, so to speak, in their true colour.

"What is that which smells so sweetly?" we asked, and a closer scrutiny discovered several clumps of Tulip Yellow Prince, the bright canary tint of which blends harmoniously with its neighbours. Then there are large plantations of Proserpine which are exceedingly attractive, with colour so difficult to describe yet so peculiarly its own. Very striking, too, are Joost Van Vondel, Van der Neer, La Belle Alliance, and others equally as well known in the Tulip world. One is, however, placed rather at a disadvantage amongst such a display, as each variety appears to be so indispensable to the others in making an effect that one is tempted, perhaps wisely, to throw up all efforts at discrimination and to stand and admire the whole *en masse*.

The beds round the fountain are equally charming, for there we find Keizer's Kroon, Proserpine, La Belle Alliance, Joost Van Vondel, and, what are no less telling and attractive, several beds which have been planted in a kind of mixed-medley style, the various colours showing forth as if totally oblivious of any such things as lines and masses. In these days of conventionalities one rarely sees a bed of mixed Tulips, perhaps that is why we admired this so much, and certainly concluded that there are few styles of planting more effective than this.

Hyacinths, for the most part, are past their best, and show the effect of London smoke, yet we noted several bright clumps of King of the Blues and others, making pleasant breaks in the large masses of Tulips. Then there are Wallflowers, Doronicums, Daisies, Polyanthus, and Auriculas, each in its own place, and adding a share towards making the spring show in Victoria Park one worth going a long way to see. That the inhabitants of the surrounding districts fully appreciate it is evident by the number of people who daily go to admire, and perhaps to criticise a little. An interesting gathering they make—old and decrepit men and women, able-bodied artisans, and crowds of children, one and all taking advantage of, and, we venture to say, benefiting in many respects by the charming display of spring flowers.—G. H. H.



WEATHER IN LONDON.—The temperature and the climatic conditions have varied considerably since our last issue went to press. On Thursday rain fell heavily at intervals, while Friday and Saturday were dull and rather cold. On Sunday the weather was magnificent, the sun shining with great power and brilliancy. Monday was dull, and a cold wind blew in the evening; but Tuesday brought another pleasant change, for it was bright and warm throughout the day, with frost at night, the bright conditions extending until midday on Wednesday.

— WEATHER IN THE NORTH.—A sharp snap of frost with rather dense rime on the morning of the 15th; a very wet forenoon on the following day, followed by a very showery night and morning on the 17th. Since then delightful spring weather of mingled shade, shower, and sunshine is the record of the week ending on Tuesday morning. Hedges and trees are fast becoming green, and the face of the country is beautiful from the fresh state of pastures and grain braird.—B. D., *S. Perthshire*.

— ESSAYS ON FRUIT GROWING.—The prize essays on "Hardy Fruit Growing," written by Messrs. Lewis Castle and S. T. Wright, and read at the great show of fruit held in the Crystal Palace last autumn, have been published in book form by the Royal Horticultural Society, and may be had from 117, Victoria Street, S.W., for 1s. 6d., post free. As there is a great amount of valuable information in each essay fruit growers would do well to procure and study them, as they cannot but be of great benefit to all who do so. Between the same covers is published a report of the exhibition of and Conference on Fruit held at the show mentioned above.

— THE HESSLE GARDENERS' MUTUAL IMPROVEMENT SOCIETY.—The annual dinner of the above Society took place on Thursday, April 16th, W. J. Wharwick, Esq., the President of the Society, in the chair. Sixty-one members and friends sat down to the good things provided by the host, which were much appreciated. The usual toasts were proposed and duly responded to, amongst which was the "Press," with special mention of the *Journal of Horticulture*, proposed by Mr. Murchison, and responded to by Mr. F. L. Thurston. The musical programme was rendered by Mr. A. Newton and party, who displayed great talent and were encored repeatedly. The evening was a success in every respect, and everyone thoroughly enjoyed themselves.

— BOLTING CABBAGES.—Although complaint with respect to the running to flower of Cabbages is so general, yet there are many exceptions. Only a few days since I saw extensive breadths in the West Middlesex market fields, of which not 2 per cent. had bolted; whilst the smaller and earlier plants were hearting-in admirably, plenty being ready for cutting. The stock may not have been absolutely true, but it was fairly so. It was in each case sown as Early Offenham, which is, when true, without doubt one of our best early Cabbages. Some of the plants might well have done for Ellam's Early. However, if somewhat varied, there was a good prospect of long successional cutting, which is an element of usefulness and profit when breadths several acres in extent are concerned.—WANDERER.

— JOURNAL OF THE ROYAL HORTICULTURAL SOCIETY.—The latest Journal of the Royal Horticultural Society has reached us, and forms quite a bulky volume. Much useful matter relative to the Society is well printed therein, while the publication of the papers on the "Etiolation as a Phenomenon of Adaptation," by Mr. Francis Darwin F.R.S., F.R.H.S.; "The Carnation in Scotland," Mr. R. P. Brotherston; "Hardy Bamboos," by Mr. A. B. Freeman-Mitford, C.B.; "Codiaeums (Crotons) and Dracaenas," by the late Mr. C. F. Bause, F.R.H.S.; "Nut Growing in England," by Mr. J. Omer Cooper, F.R.H.S.; "Potatoes," by Mr. A. W. Sutton, F.L.S., F.R.H.S.; "Substitutes for Larch," by Dr. Maxwell T. Masters, F.R.S., F.R.H.S.; "Asparagus Culture," by Mr. James Mason; "Brunswick Method of Asparagus Culture," by Mrs. Johnston, F.R.H.S.; and "A Few Notes on Rock Gardens," by Mr. H. Selge Leonard, F.R.H.S., which have been read at the various Drill Hall meetings, imparts a peculiar interest to the work, which may be had from the offices of the Society, 117, Victoria Street, S.W., for 5s.

— MR. W. T. THISELTON DYER.—We are informed that the University of Glasgow has conferred the honorary degree of LL.D. on the Director of the Royal Gardens, Kew.

— VEGETATION IN THE SOUTH OF IRELAND.—The roads and fields in the South of Ireland just now present a scene of surpassing loveliness. It is a particularly early season, even in the South of Ireland, and the golden Gorse and the white blossom of the Blackthorn are exquisitely enchanting. Go wherever you may just now, says a writer in a Bristol paper, the golden bouquets of the Gorse will meet your eye in all directions.

— AMERICAN WEATHER.—Mr. A. Outram, who is travelling in America for Messrs. Sutton & Sons, writes under date of April 10th:—"I have unfortunately struck the very worst weather I have ever experienced, only this last day or so having been at all decent. Snow storms, strong winds intensely cold, and so very changeable—really awful. I have seen nothing startling in horticulture worthy of recording, but some curious freaks now and then occur which are peculiar."

— DEATH OF MISS THORNE.—It is with deep regret that we record the demise, on Sunday last, of Miss Thorne, daughter of Mr. F. J. Thorne, the well-known and highly respected gardener to Major Joicey at Sunningdale Park, Berks. The deceased was only in her sixteenth year, death being due to heart disease and rheumatic fever, after only a short illness. All our readers who know Mr. and Mrs. Thorne will, we are sure, unite with us in tendering to them the sincerest sympathy in their sad bereavement.

— SPRING'S PROMISES.—The promises of the present spring, here in the centre of the Midlands, are glorious, but whether the fulfilment of the summer and autumn will be in accordance therewith only time will disclose. After a phenomenally mild winter we are being favoured by as genial a spring, and as far as our fruit prospects are concerned the outlook is one of great hope and cheerfulness. In the enclosed garden the Pear bushes are almost without exception just now perfect garlands of snowy whiteness, the Plums have been so and are setting well; the Apricots also are setting well, whilst the bush fruit trees show an abundance of bloom. Altogether in the enclosed garden everything is of the brightest. In the orchards there is not quite so bright an outlook. Pears are blooming oddly, some not at all, some in patches, and some well. Apples are shy and also odd; some of these are destitute of bloom, and strange to say they are the varieties which usually bloom regularly and well, whilst others, ordinarily shy bloomers, are partially or full of bloom without exception. Plums here (in the orchard) are on the whole a good head of bloom. Taking everything together the fruit harvest will be a good one if the promises of spring bulk out in a summer and autumn fulfilment.—P. H. N.

— CHEAP POTATOES.—I do not know how seedsmen may be finding trade in seed Potatoes, but it is evident that growers for market are finding prices low enough. I heard the other day in Middlesex of good "Magnums" selling at from 6d. to 1s. per bushel. It is not enough to say in such case that it is far too cheap, it is ruinous. It seems to be impossible to find any explanation of this extreme cheapness except on the score of exceptional abundance. That is no doubt the actual cause. I fear there is little prospect of being enabled to plant Potatoes at midsummer to lift in the winter and sell as new Potatoes; our climate and the Potato disease will not admit of any such treatment. There can be no doubt, however, that our town populations, because of the conditions under which they exist, do soon tire of old Potatoes and long for new ones, and thus it is that as the spring advances old Potatoes become a drug. Out in the country old ones are consumed much later into the season, but then so many persons have those of their own growing to consume. Raisers of new varieties of Potatoes are partially responsible for this excessive plenty now, because the varieties put into commerce during the past twelve or fifteen years have been such great croppers. Then growers for market or farmers have taken so largely to Potato culture that the production seems greatly to have exceeded the demand. On the other hand, those who cultivate the land hardly know what to grow to form paying crops. But in spite of this present cheapness of Potatoes I observe that planting is going on as extensively as ever, doubtless in the hope that prices have touched the bottom. We may well hope so, because unremunerative prices benefit no one, not even the consumer, who is very apt with such cheapness to become wasteful. There can be no doubt that Great Britain is in every way the best fed country in the world, and probably nowhere can such good living be furnished so cheaply.—A. D.

— GARDENING APPOINTMENTS.—We are glad to be able to announce that Mr. W. Coomber, for many years with the Royal Botanic Society at Regent's Park, has been appointed head gardener to Lord Lilford, Lilford Hall, Oundle, Northamptonshire. Mr. George Eveleigh has been appointed gardener to Colonel Pinney, Somerton Erleigh, Somerton.

— EALING GARDENERS' ASSOCIATION.—A numerous gathering attended the annual dinner and prize distribution of this flourishing body, held recently at Ealing. R. Willey, Esq., President of the Association, occupied the chair. From the statement of the Hon. Secretary it appears that twenty-five meetings were held, and sixteen new honorary members, and a like number of ordinary members, were elected. The Secretary threw out a good suggestion as to establishing a "Gardeners' Registry" in connection with associations of this description throughout the country, to which those in want of gardeners in their respective districts might apply, and be supplied therefrom with competent men.

— VIOLAS AND PANSIES FROM ROTHESAY.—From Messrs. Dobbie & Co., Rothesay, N.B., we have received a small box of these flowers, and found them to be of extreme beauty. The varieties were numerous, and it would be impossible to select the best; but Minnie, a pale lavender with a deeper centre; Dandie Dinmont, rich purple; A. J. Rowberry, clear yellow; rosea pallida, the name of which tells the colour; Accushla, white, with clearly defined violet margins, and Marchioness, pure white, were superb. Besides these were flowers of a new strain of bedding Violas, of which, if the quality of the specimens sent is maintained, much will be heard in the future; a gold laced crimson was particularly effective. Taking into consideration the earliness of the date, the form, substance, and colouration left nothing to be desired.

— BLUE KING PANSY.—Amidst all the Viola production which still goes on apace, and which seems to be in danger of breeding many thin, attenuated, and worthless varieties, none yet has been produced that for earliness and effect excels as a blue that fine Pansy Blue King. Those who see it grown in bulk for market sale have to admit that no Viola can touch it for effect or as a market plant. Here is a parent which it may be well if someone interested in this section of hardy flowers would take in hand and create a new race of bedding Pansies that shall have all the merits of being early, compact, floriferous, and very varied in colour. Too much thought just now is given to the production of rayless flowers, but when got they have little market value or decorative usefulness. Blue King still holds the field as the best and earliest Pansy in commerce.—A. D.

— SHIRLEY AND SURROUNDING DISTRICTS GARDENERS' AND AMATEURS' MUTUAL IMPROVEMENT ASSOCIATION.—The monthly meeting was held on the 20th inst., at the Parish Room, Shirley, Southampton, Mr. B. Ladhams, F.R.H.S., presiding. This was the first meeting of the Society's third season, and was well attended. Mr. H. Curtis, The Gardens, Springhill, gave a very practical and exhaustive paper on the "Culture of the Tomato," directing his remarks chiefly to the treatment under glass. He recommended Seakale pots for growing the plants in, preferring these to any other pot, as requiring less water, and also being better than planting out, there being, in his opinion, less danger of disease setting in with a limited root run. A discussion followed, especially on the diseases of the plant, and the remedies to be applied; but it was generally admitted that a close atmosphere and a rampant soft growth were the two things to be chiefly avoided. A hearty vote of thanks to Mr. Curtis concluded the proceedings.

— PHALLUS ESCULENTUS—I have been unusually interested this spring with the appearance of the fungus *Phallus esculentus* in the grass in our orchard, never having observed it there before. I should like to ask those readers, who are situated in localities where it generally makes its appearance, if they find it more numerous this spring than usual. Probably the mild and open winter is the cause of its unexpected advent here, or perchance the dressings of wood ashes and soot, which have been spread on the grass for the benefit of the fruit trees, may have had some effect in stimulating the dormant spores or mycelium into activity, and causing this dainty esculent to appear. Whatever may have contributed to its presence it is welcomed and relished. In some parts of the country it is regularly sought after by persons who have an epicurean taste, and no wonder, for when cut up with equal quantities of beef, dressed and cooked the same way as a beefsteak pudding, it is well able to satisfy the craving of a hungry man.—J. EASTER, *Nostell Priory Gardens*.

— IMPORTATION OF COLONIAL APPLES.—The first cargo of the season arrived on Thursday last by the Orient liner "Oruba," the consignment consisting of about 6700 cases. The quality, particularly of the Tasmanian Apples, is said to be better than has been known for several years, the Apples in question realising from 12s. 6d. to 22s. per bushel case.

— VINES IN JADOO FIBRE.—From Col. Halford Thompson, Eastcliff, Teignmouth, has come a little pamphlet, printed in French, regarding some experiments that have been carried out at Bordeaux in growing Grape Vines in Jadoo fibre, and rooting Vine cuttings in the same material. One of the chief advantages claimed for Jadoo for this purpose is that it will do away with the necessity for planting the cuttings in a nursery, as the certainty of the root action of Jadoo will enable this process to be dispensed with, and the cuttings put straight into their permanent position. Plants grown in this way are said to be more able to resist all kinds of insect pests than if rooted in earth. The same remarks apply to the use Jadoo for Hops.

— PEACH YELLOWS—Several Peach growers in the Michigan Fruit Belt report a decided decrease of the yellows in orchards that have been sprayed thoroughly with copper sulphate during the past two years. The spraying, says an American contemporary, was done as a possible preventive of the curl leaf, with no thought of its having any effect on the yellows disease. The result of the experiments would seem to indicate that while no application can be expected to cure the disease even in the early stages, the application may destroy spores and thus save trees that have not become diseased. If this theory prove true, growers who persist in spraying will in a few years be entirely exempt from the misfortune in spite of negligent neighbours.

— A GENEROUS GIFT.—The name of John Crosfield, Esq., of Walton Lea, Warrington, is well known to all lovers of horticulture, and equally so is that of his esteemed gardener, Mr. W. Kipps. A very successful Chrysanthemum exhibition was held last November by the Warrington Floral and Horticultural Society, and so pleased was Mr. Crosfield that he most kindly offered 2000 Hyacinth bulbs, and in addition £20 wherewith to supply prizes for the best productions from the bulbs. As might be expected, there was a large number of entries, the following being successful:—One Hyacinth in a glass. — First, Inspector Cox; second, Mr. R. W. D. Cock; third, Miss Vipond; fourth, Mr. M. W. Long; fifth, Mrs. Cowdell; Mrs. Broadbent and Mr. W. Lowe gaining certificates. For two Hyacinths in glasses the winners were Messrs. T. Hunt, Jno. Dennett, and W. Lowe. For one Hyacinth in a pot the winners were Messrs. S. Davies, Randles, P. Cliffe, W. Ball, and Mrs. Edwards; those successful for two in a pot being Messrs. P. Cliffe, Thomas Strutt, Thomas Timperley, J. E. Kinston, and F. W. Taggart. All the exhibits were of much merit, the condition, pots, and neatness in staking being considered in making the awards. The distribution of the prize money and certificates took place at the Society's Office, Warrington, Mr. Crosfield paying all costs. Would that many more gentlemen of wealth would follow the excellent example set by Mr. Crosfield.—R. P. R.

— ROYAL METEOROLOGICAL SOCIETY.—The monthly meeting of this Society was held on Wednesday evening, the 15th inst., at the Institution of Civil Engineers, Westminster, Mr. E. Mawley, President, in the chair. Mr. W. Ellis, F.R.S., read a paper on the "Mean amount of cloud on each day of the year at the Royal Observatory, Greenwich, on the average of the fifty years, 1841-1890," in which he showed that a principal maximum occurs in the winter and a principal minimum in the autumn, with a secondary much less pronounced maximum in the summer and a secondary minimum in the spring. There is, however, considerable irregularity in the succession of daily values, the differences between which on consecutive days are in numerous cases relatively large. Mr. E. D. Fridlander, B.Sc., gave an account of some observations of the amount of dust in the atmosphere made at various places during a voyage round the world in 1894-5. The experiments, which were made with a form of Aitken's pocket dust counter, showed that there are often considerable variations in the number of dust particles in a very short space of time. Not only did dust occur in the air of inhabited countries, over the water surfaces immediately adjoining them, and up to an altitude of 6000 or 7000 feet amongst the Alps, but it was also found in the open ocean, and that so far away from any land as to preclude the possibility of artificial pollution, and its existence has been directly demonstrated at a height of more than 13,000 feet. Major H. E. Rawson, F.R.Met.Soc., gave an analysis of the Greenwich rainfall records from 1879 to 1890, with special reference to the declination of the sun and moon.

— *KNIPHOFIA PAUCIFLORA*.—This is a distinct species of what is generally a showy genus, and it will flower very early with little encouragement, but only a botanist would recognise this as one of the Red-hot Poker plants. The tubular flowers, slightly less than 1 inch long, are borne sparsely on one side and at the top of a thin scape some 18 inches long. They are of a light straw colour, and pretty rather than striking. The leaves are very narrow and deeply channelled.

— *NATURAL HISTORY MUSEUM*.—To the botanical gallery of this Museum there have been some noteworthy additions to the exhibited series. In the table cases on the right-hand side there are shown, says a contemporary, an illustrated series of British Mycetozoa and a selection from the Wheeler drawings of fungi recently presented to the Trustees by Messrs. Edwin and Henry Wheeler. The drawings are remarkable for their rendering of the colour character of fungi. There is also a partial exhibition of insectivorous plants—the Pitcher plants being fully illustrated by drawings, models, and specimens. It is intended to devote all the table cases ultimately to the illustration of plant adaptations, and this case is the first of a series which will include parasites, methods of seed dispersal, and cross fertilisation.

— *PRIMROSES AT BEDFORD*.—A very beautiful show of these flowers is just now being made in an open field at Bedford, where Mr. R. Dean has wonderful quantities, not merely of Primroses proper, but also of Polyantheses in thousands. Associated with them are Violas, *Doronicums*, *Aubrietias violacea* and *Leichtlini*, the very best in commerce, and numerous other charming hardy plants. But the Primroses and Polyantheses, whether found in blocks of one colour or intermixed, are most attractive, indeed no other plants could give such variation in colour and so much of beauty as these do in the month of April. When, too, it is remembered that hundreds of plants may be had by anyone next spring, and if well cared for blooming finely from a packet or two of seed, it is rather surprising that so many gardens should still be found devoid of these most delightful spring flowers.—A.

— *POLYANTHUSES AT HAMPTON COURT*.—Mr. Graham and his foreman, Mr. Barnshaw, are to be congratulated on the very bright and beautiful show of Polyantheses they are now displaying at that place of popular resort—Hampton Court Palace. For several years the efforts made to utilise the fine border Polyantheses of to-day for garden decoration in the spring have been very successful, but in no case more so than this year. The numbers of plants, and large plants too, put out into beds and the long borders under the tennis courts must run to many thousands. This season, too, they include several beds of selected dark-coloured varieties, thus affording welcome variation from the abundant whites and yellows so largely employed. The atmosphere as well as the soil at Hampton Court seems to suit these spring flowers admirably. The show now is well worth a visit.

— *ARCTIC DISTRIBUTION OF FLOWERING PLANTS*.—The influence of the glacial epoch upon the flora of the British Isles, was discussed by Mr. H. D. Geldart in his presidential address on the occasion of the annual meeting of the Norfolk Natural History Society. In the course of his address, says a contemporary, Mr. Geldart suggested, as a probable solution of the difficulties arising from the present distribution of arctic and alpine floras, that before the commencement of the glacial epoch what is now commonly known as the Scandinavian flora, but which would be better called the arctic flora, was distributed from land then existing in the neighbourhood of the Pole; that a part of this flora, being well established, had held its own without migration even to the present time, and that the hypothesis of destruction and migration of plants from north to south and back again was unnecessary to account for the actual facts of distribution.

— *ACTION OF FROST*.—Respecting the courteous note from my critic, "S. S.," on page 298 (to whom I apologise for not acknowledging it before), I must just remark that I am quite open to conviction, that possibly, even probably, my inferences *re* radiation as affecting our seasons are erroneous. Yet I am somewhat sceptical as to whether we can or may ignore our thermal stores derived from solar influence as well as terrestrial internal fires, each of which individually or combined exert an influence on our atmosphere, such influence being to more or less extent diversified by air currents. The interesting excerpt by "A. C." on page 324 is a higher, literally and figuratively, view of the matter. Fascinating as is this astronomical note I must not be tempted into expression of thought on a subject in the immensity of which a gardener pure and simple would probably founder. Unfortunately, where proofs are wanting, much of this exposition of natural phenomena is conjectural, or, at least, failing the exhibition of proofs, must to some extent be regarded as such.—INVICTA.

BEAUTY IN THE SHRUBBERY.

IN many establishments the shrubbery borders are of great importance, and looked on by some employers as one of the principal features of gardens. Unfortunately in many gardens this department is greatly neglected, especially as regards the choice of plants. In nine cases out of ten there is a deficiency of flowering shrubs and trees, and what I wish now is to draw attention to a few that render our borders gay in the spring months. These, if planted judiciously amongst the commoner plants, would greatly relieve the monotony of ordinary borders. In forming new shrubberies a good selection of plants is indispensable, and if due consideration be given the shrubberies should be bright for several months in the year. The undermentioned are all beautifully in flower during April.

Amongst the most prominent are the Berberies, and *B. Darwini* is now about its best. This is a first-rate plant for borders or in small groups alone; the branches appear to be weighed down with the quantity of flowers they almost yearly produce. The flowers are bright in colour, and produced in clusters on the previous year's growth. When sufficient space is allowed for it to develop, bushes 5 or 6 feet high and 8 feet through can be obtained, and when seen covered with their pendulous orange-coloured blossoms they are very attractive. *B. stenophylla*, a garden hybrid, somewhat resembles *B. Darwini*, the last-named being one of the parents, but is a fortnight or more later in flowering: it, however, is a useful variety, and deserves a place in any border. *Mahonia (Berberis) fascicularis* is a useful shrub, and is now handsome, the bright canary yellow flowers being produced in clusters at the tips of the shoots. This is a plant suitable for planting in or near the front of a border. *M. rotundifolia* is nearly related to the latter, but has smooth leaves, and *M. Murrayana* is a good companion to it, but has large spiny leaves; the flowers are similar in size and colour. These make a grand display and look well at a distance.

Spiraea prunifolia and *S. prunifolia flore-pleno* are amongst the earliest of the genus. These are valuable acquisitions on account of their pure white flowers produced the whole length of the previous year's growth. They look remarkably well with evergreen shrubs or planted singly as specimens.

Pyruses are very fine. *P. Malus* and *P. Malus floribunda* are beautiful, the rose coloured flowers being abundant. Following a little later is *P. baccata*, the individual flowers of which measure $1\frac{1}{2}$ inch across, are light rosy pink, and deliciously scented. The latter may be grown as bushes or standards. When grown as standards they appear well planted towards the middle of the border; they are also fine as single specimens. *Pyrus japonica* is well known. There are some varieties which far surpass the type. *P. japonica* var. *Maulei* is a little gem, and deserves to be planted extensively; is very free-flowering, and extremely dwarf. *P. japonica* var. *princeps* is very rich in colour, but not nearly so free-flowering as the former; and *P. japonica* var. *nivalis* is a valuable variety, with large white wax-like flowers.

Prunus triloba succeeds well trained against a wall; it does equally well planted out as a bush. Those on the wall will, of course, flower first; the flowers are double and soft pink. This plant is too little known. It is also useful for forcing. It is surprising how grand two or three of the common Cherries are just now, being covered with flowers. We have some in the borders backed up with higher trees, and the effect is splendid whilst they are in flower. *Amygdalus persica rosea* is valuable for planting amongst larger trees and shrubs: the flowers are dark rose, and should certainly find a place. We must not pass the *Forsythias*, which have been in flower for some two or three weeks past. *F. viridissima* and *F. Fortunei* are both worth planting; they are also useful for forcing.

I am under the impression that the Ribes are not employed so much as they deserve for borders. *R. sanguineum* and its varieties are the most showy. *R. sanguineum* var. *atrorubens* has bright crimson flowers, and is very free-flowering. *R. sanguineum* var. *atro-sanguineum* has larger flowers, but not so deep in colour; the leaves are also larger than the last-named variety. *R. sanguineum* var. *albida* bears flowers of a pinkish white colour, and is worth growing. *R. Gordonianum* has flowers of a reddish yellow tint. The above are the best of the sanguineum section, and the following are three good yellow forms:—*R. palmatum* I consider the best, *R. aureum*, and *R. aureum* var. *præcox*, the latter of which bears the largest flowers, and, to add more to its value, is very fragrant.

Magnolia conspicua is seldom seen. Why this should be is not easy to imagine. It has been grand for the last two or three weeks, and will last as much longer. The flowers are pure white, of good size and substance, and deliciously scented. The free-flowering habit of this plant, together with the usefulness of the flowers, are qualities sufficient to recommend it to anyone. Good formed bushes are not to be despised as specimens in the open. *M. Yulan* and its varieties should also be included. The flowers of *M. Yulan* differ considerably from the former in colour, being marked with purple; in shape and size it closely approaches *M. conspicua*. *Cytisus albus* makes a good border plant; the long sprays of pure white flowers contrast favourably with the surrounding dark green foliage. I lately saw some large bushes of the common Furze, also the double-flowered variety, planted amongst Laurels and Aucubas, and the effect was very imposing. *Amelanchier canadensis* is always appreciated when in flower, and now its beautiful white flowers are very conspicuous; this also appears well grown as single specimens. The above are only a few of the many neglected plants that should be more extensively cultivated.—K. W. G.



THE PRINCE MEMORIAL PRIZE FUND.

I HAVE to acknowledge the following subscriptions either received or promised:—The Very Rev. The Dean of Rochester, President N.R.S., £5; Miss Slay, £3 3s.; Messrs. Veitch & Sons, £2 2s.; C. J. Grahame, Esq., £2 2s.; E. B. Lindsell, Esq., £1 1s.; H. V. Machin, Esq., £1 1s.; Messrs. Paul & Son, £1 1s.; Mr. B. R. Cant, £1 1s.; Mr. Frank Cant, £1 1s.; Rev. J. H. Pemberton, £1 1s.; C. E. Shea, Esq., £1 1s.; Messrs. Prior & Son, £1 1s.; Mr. J. Burrell, £1 1s.; Rev. F. R. Burnside, 10s.; Joseph Hinton, Esq., 10s. 6d.; Rev. A. Foster Melliar, 10s.; J. D. Pawle, Esq., 10s.; J. T. Stray, Esq., 10s. 6d.; Edw. Mawley, Esq., 10s.; Messrs. Geo. Bunyard & Co., 10s.; S. P. Budd, Esq., £1 1s.; Rev. H. H. D'Ombraim, £1 1s.; The Rev. H. A. Berners, £1 1s.—D., Deal.

YELLOW ROSES.

THERE can be little doubt that Roses in which yellow largely predominates are great favourites with us, far more so than they are with those abroad, although in the South of France such kinds as Safrano are very largely grown, and the question which has arisen as to the respective merits of climbing Perle des Jardins and Maréchal Niel shows that this interest is still maintained. Amongst the dwarf Tea Roses there are many in which yellow largely predominates, but into which other hues also enter; but it is not of these that I wish to say a few words, but of those whose respective merits have been warmly debated in the columns of the Journal; nor do I intend to enter on the merits of the Gloire de Dijon family.

There is one Rose of which nothing has been said in this amicable discussion, I mean Cloth of Gold, and yet I regard it as the finest of all the climbing yellow Roses. Under the name of Chromatella it is largely grown in the South of Europe, and it has been taken too much for granted that our climate is not sufficiently warm for it; and perhaps this is true, except in some favoured localities. When I came to this parish in East Kent, about twenty-eight years ago, there was a magnificent tree of it on the front of a house, which was every year laden with blooms. The house faced about south-west, and the soil of the garden was a light sandy loam; it had then a stem which must have been 9 inches in circumference, and had some 250 blooms on it. What a sight it was! The stout footstalks bore each flower proudly erect, and no one who saw it could fail to wish that they could grow it equally well. Cloth of Gold is seldom seen either in gardens or on the exhibition table, but from the above experience I think it might be oftener grown, and certainly if I had a large garden, in which there was a Rose house, I should give this grand flower a place.

Maréchal Niel I have never considered a suitable Rose for out of door cultivation; not simply because it may be accused of being a shy bloomer, a character which I do not think it deserves in the South, but chiefly because of the pendent character of its blooms. Here again I may refer to my experience in this place. At the time the Cloth of Gold was flourishing as I have described, there was a cottage just outside the borders of my parish on which there was an equally fine plant of this Rose; it was budded on a standard Briar and trained against the front of the cottage; it was covered with bloom, but it looked as if the tree were hung with dead Roses. The outer petals were all discoloured and sodden, yet if you gathered one it was of the most intense and brilliant yellow; but this sad defect of its habit took away from it any pretentious beauty, and unless where it is protected this must, I think, always be the result. I remember seeing at a well-known garden in the West of England a large bed of this Rose pegged down, and if only the flowers had held themselves up it would have been grand, but unfortunately their pendent character entirely defeated the owner's intentions and the next season the plants were all taken out. Nor have I ever seen it in any position out of doors where it might be called a thing of beauty. Then all who have grown it know very well that it is subject to a gouty attack at the point of junction between the stock and the Rose, and this after a few years either kills the plant or so cripples it that it has to be taken away.

Perle des Jardins in its climbing form is not subject to either of these objections. It is very robust, vigorous, and is not injured by severe weather, as Cloth of Gold unquestionably is; it holds its flowers erect, and is not therefore subject to the complaints which are made of Maréchal Niel. The normal form is an exceedingly vigorous Rose with very beautiful dark foliage, and the climbing form, as it is called, retains, nay, rather intensifies this characteristic; but (ah, those buts) it has one serious defect in the eyes of a rosarian—viz, that it so often comes with what are called cleft blooms. This is a defect which it shares with Madame Riza de Parc and Belle Lyonnaise amongst the Dijon Teas. Still, with all this I think it is the most desirable for outdoor culture of any yellow Rose excepting the Dijon Teas.

These latter will always be considered, from their hardiness and free flowering character, the best suited for garden decoration by the great mass of horticulturists; but I think there is still room for a good hardy

free growing, free flowering Noisette. My ideal would be a hardier Cloth of Gold, or, shall I say, a Maréchal Niel, that would hold itself erect. These are possibilities within the reach of careful and scientific hybridisers, and, great as has been the success of raisers of Roses, I do not see why these and other much desired results may not be obtained.—D., Deal.

ROSE GROWING.

(Continued from page 346.)

Planting.—We will suppose that all possible preparation has been made, and will now pass on to planting. I notice the trade recommend one precaution in respect of this when the Roses arrive, which is too often neglected, and that is, immediately after unpacking giving both roots and branches a thoroughly good sprinkling with water. One can never be quite sure how long they have been on the road, or what they may not have undergone of drying up at the time of digging. It will be necessary also to protect against cold winds, the roots never can prosper if they get shrivelled before planting. Roses on Manetti stocks, as all know, should be planted rather deeper than those on the Briar; the point of junction in this case should be entirely buried. Standards are better planted rather shallowly, but ought to be staked at once, and trodden round very carefully. I prefer iron stakes to wooden; they cost very little more, and last ten times as long.

Care should be taken after planting to see that all are correctly labelled; zinc labels are the best. These should be fastened on with copper wire to little iron spikes placed in front of the plants, or as giving name to a whole row. Roses must never be left going on wearing their own labels, as if the name be lost at the showing time it may be a serious matter.

Happily now, since English seedlings have come so much to the front, names have become both more pronounceable and spellable. They are not so dreadfully sentimental, souvenirs of So-and-so, neither so ultra-aristocratic. Dukes and marquises, friends and relations, are now coming into vogue. Last year Mr. George Paul did me the honour to call a Rose Alan Cheales. It is not yet in the catalogue, and I must confess to a certain apprehension when that takes place. My friend, the Rev. H. B. Camm, some years ago found himself depicted as "bright rose, globular, very full." I see one catalogue calls some young lady, a Miss Penelope Mayo, "very full and perfectly round," and another, Emily Laxton, is said to be "prettiest when half open." I suppose that means half awake. Our gracious sovereign lady Her Majesty is spoken of by Bennett as "flesh colour, petals stout, pleasantly reflexed," whatever that means.

Dean Hole boldly encountered and explained his own synonym, when Mr. George Paul entitled him "of great substance" (like its namesake), "and of a very deep crimson complexion" (such as the original might be supposed to assume after carrying a box of Roses up the Crystal Palace stairs, or on hearing some remarks made in disparagement of horticulture).

Time of Planting.—November is by far the best month for this, but, if gone over, Roses may be put in at any time during the winter whenever the weather is open, though then there will be danger of being quite frozen in, as frost may come on at any moment. In planting Teas I should prefer a very moderate manuring, though they like the best of loams, and are partial to leaves or leaf mould for rooting into. One old lady, mentioned by Dean Hole, is said to have regularly put her tea leaves to her monthly Chinas, without, however, obtaining the Tea Roses she had expected. I would further suggest that the ground be prepared at least a month before the planting to give it time to settle down, and every gardener will agree this should not be done in wet weather. There are some soils that you cannot go on at all under such circumstances, and even for the best disposed you are liable to carry away more specimens of the subsoil than is necessary, being reduced to the same condition with your boots at which somebody or other seems to have arrived at generally when Charles Lamb remarked to him, "Oh! David, David, if dirt were trumps what hands you would hold!"

Protecting.—I think Roses in general are apt to be too much coddled. I sometimes see great strong standards deeply muffled round the roots with long strawy manure, as if in danger of taking cold through getting wet at their feet; whilst the top, perhaps a tender Tea, has been left without any protection whatever. A moderate amount of frost, say 20° for H.P.'s and 10° for Teas, I consider, at the right time, will do healthy plants more good than harm. Beyond that it may be serious, and precautions should be taken. Earthing up, as Mr. Prince of Oxford, now, alas! lost to us, used to recommend, is the best plan with the Teas class, and with all tender Perpetuals; then, at the worst, the plants can only be killed down level to the ground.

Fern is a good protector tied on to the top of standards, or scattered over bush Roses; long straw, where it can be used, has the further advantage to some soils when dug in afterwards as manure; but it is almost impossible to provide against frost anything like below zero; then heavy losses will inevitably take place. The case is that of the gentleman whose mercury went quite into the bulb of the thermometer, and he said, "If it could have got any lower, he did not know how cold it might not have been." As regards Teas in a bed by themselves, it may be as well every winter to have a slight iron framework erected over them, over which mats can be placed at any time, and taken on and off according to the weather.—ALAN CHEALES.

(To be continued.)

PRESENTATION TO MR. BARRON.

TUESDAY, the 21st inst., was a busy day at the Westminster Drill Hall, as besides the fortnightly exhibition of the Royal Horticultural Society, the National Auricula show was held there. The two events brought together an unusually large number of horticulturists, and the occasion was thought convenient for presenting, with as little ceremony as possible, what may not unfittingly be termed a national testimonial to Mr. Barron at a midday luncheon in the Hotel Windsor, which is contiguous to the Hall. Though the "Auricula dinner" was held at the same time in an adjoining room, every chair was taken in the "Barron room," about fifty persons attending on the interesting occasion.

Dr. MAXWELL T. MASTERS, Chairman of the Testimonial Committee, presided, Mr. Barron sitting on his right and Mr. Harry J. Veitch, Treasurer,

Barron—surmounting all difficulties, and winning success in the end. For those reasons they had cause to regard Mr. Barron not with sentiments of respect and esteem merely, but of affection. Therefore, he (the Chairman) felt it a great honour to be entrusted with the duty of asking of their friend the acceptance of an oblong slip of paper as a token of their feelings towards him, and as it had inscribed on it £500 all hoped it might be of some use, as well as embodying the best wishes for the health and happiness of Mrs. and Mr. Barron by their many friends.'

The Chairman's apposite remarks were received with much applause, and the subject of them greeted with musical honours, under the leadership of Mr. W. Poupart.

Mr. BARRON on rising to accept the gift received an ovation. He said, and evidently in all sincerity, "that though he had encountered difficulties from time to time he never felt himself in such a difficult



FIG. 63.—MR. A. F. BARRON.

on his left. After the toast of "The Queen" Dr. Masters lost no time in discharging his agreeable duty, which he did, as might be expected, in a very pleasant manner. There was no time for elaborate speeches, and, as the Chairman observed, the occasion demanded none. He said he might almost do the same as a friend of his once did, who was not a very fluent speaker, in having a presentation to make, and who after a few hesitating words found relief in the simple but very practical formula, "Here, take it!" The Doctor was in no such difficulty yet, evidently endeavoured to compress what he had to say in the fewest possible words. These were to the following effect:—

"Like several friends in the room, he had known Mr. Barron for thirty years, and they all admired him for his loyalty, his faithfulness, his straightforward dealings, his uprightness, and his manly character. He had not failed in anything he had undertaken, either as manager of great shows, or of the extensive gardens so long in his charge. He had often to work under depressing circumstances, especially in the South Kensington days, but he persevered—cheered and encouraged he (the speaker) was sure by an excellent helpmeet—Mrs.

position as at that moment. He was simply astonished—amazed—by the extraordinary kindness of his friends, and it made him ask of himself 'Who am I? What have I done that I should be the recipient of this splendid gift?' Going on to say that words failed him to express the gratitude of his heart for all that had been done. He had filled a public position as a horticulturist, and he would take the gift not only as personal to himself but as a compliment to horticulture. In the work in which he had been engaged he could not say more than that he had tried to do his duty—(cheers)—and if he had succeeded it was because he loved his occupation. That day was a red letter day in his life. The slip of paper might pass away—he rather thought it would—(laughter)—but the present proceedings and the goodness of his friends would always remain in his memory; he could do no more than again thank them for their generous feelings towards him, which he did with all his heart." (Loud cheers.)

Hearty votes of thanks to Mr. Veitch, the Treasurer of the Presentation Fund, also to Mr. Marshall and Mr. Wynne, the indefatigable Secretaries, and to Dr. Masters, the Chairman, brought the proceedings to a close.



PROPOSED CHRYSANTHEMUM SHOW FOR PORTSMOUTH.

A MEETING was held at the Town Hall, Portsmouth, on Friday, under the presidency of the Mayor, to start a Chrysanthemum show. A number of growers, including Mr. W. Drover, F.R.H.S., Mr. Agate, Mr. Penford, Mr. Adams, Mr. Steploe, and many amateurs, discussed the question and a committee was formed. Mr. Councillor Power will be asked to undertake the Hon. Secretaryship. Prizes in open classes will be offered. It is regrettable that the Havant Chrysanthemum Society has failed, but its members will support the Portsmouth Show. It is proposed to hold the show on the 10th and 11th November at the Town Hall.

MR. E. MOLYNEUX.

I TRUST you will kindly allow me as a grower of the "mum" to congratulate Mr. Molyneux on his appointment as steward of the Swanmore estate, and in doing so I should like to acknowledge my indebtedness to him and the *Journal of Horticulture* for teaching me how to grow Chrysanthemums. Fourteen years ago I had not seen a show bloom, but about that time I read an article by Mr. Molyneux on how to grow Chrysanthemums, and I decided to have a try. By following the instructions given I succeeded fairly well, and my *débüt* in the show arena resulted in a third at Shrewsbury. Thus encouraged I persevered, read every scrap on the subject in the *Journal*, bought Mr. Molyneux's book and read it until I could turn to any part for particular points of culture. I am pleased to learn that he will still be head over the garden he has loved and managed so well, and though his time may be much taken up on other parts of the estate, I think I shall be expressing the wish of all when I say we hope to see his well known initials at the bottom of many a page of the *Journal of Horticulture* in the future.—ALEX. HAGGART.

FOUR NEW VARIETIES.

AS I have received numerous inquiries respecting the treatment of the undermentioned varieties, I think the following remarks may be found useful and prevent disappointment.

Mrs. H. Weeks.—I notice in various lists of novelties stopping in May is recommended for this variety. No doubt this would be early enough for growers in the south, but is misleading to those far north of London. In the Midlands, I find about the 20th of April is the best time.

Lady Byron.—Care should be taken not to overpot this variety, for although it has a vigorous growth it does not make roots in proportion, and is apt to become weak and sickly if overpotted, an 8-inch pot being ample. This should be stopped early in May and the second bud be taken.

Mrs. Armistead.—I have seen it stated that the crown bud is the best for this variety, but I find the second crown or terminal are better, as blooms from crown buds produce a number of quilled florets, which are absent in those from later buds.

Mrs. G. Carpenter.—This is a strong grower and requires a 10-inch pot. It comes good on any bud, but preference should be given to crown buds.—H. WEEKS.

A CALL AT ORTON.

ORTON LONGUEVILLE, near Peterborough, is, as most readers of the *Journal of Horticulture* know, the English seat of the Marquis of Huntly. They also know that the pleasure grounds at Orton are famous for Conifers, and particularly for what may be termed a majestic avenue of Wellingtonias. It is further generally known that the gardens have for several years been in the admittedly competent charge of Mr. A. Harding, who is more of a botanist than are most of the craft, while he is not less practical than any of its able representatives.

UP-TO-DATE METHODS.

Mr. Harding is one of those workers with knowledge who can and does "make the land pay," though certain pessimists would almost appear to think that times have got too bad for anything, as their cry is that "nothing pays." The Orton gardener is in conflict with them, and is rather of opinion that "everything will pay" that is grown in gardens and is in common demand in its season. The necessary conditions are that the products must be grown in the best possible manner, placed in the market in the most tempting condition and at the earliest possible time for gaining the highest prices, before the glut of more or less rough produce pours in and makes little or nothing for the grower. Vegetables, fruit, and flowers are all turned to account in the best way that judgment can devise and attentiveness to small details afford. A great amount of produce is raised beyond what is needed by the family—often long absent—and thus more men are employed than would otherwise be the case, and the gardens and grounds kept in admirable condition. Gardening, then, it will be seen, is conducted in at least one up-to-date method (the commercial) at Orton. It is, moreover, found, after nearly twenty years' experience, that for early

produce of high quality there is no appreciable diminution in price, for the simple reason that for the first and the best of everything there is always a brisk demand. This aspect of the question may, however, be left for those whom it concerns to think about, while a few other items of interest are noted.

MR. A. F. BARRON AND ORTON.

As a gardener it will not be too much to say that the ex-Superintendent of Chiswick is the "man of the week," for before these lines appear in print he will have been the recipient of one of the most substantial presentations that has ever been made to a representative of the craft that he has adorned so long, and with which, it is hoped, he will for still many years be actively identified. It may, therefore, not be out of place to draw attention to the fact that Mr. Barron's first experience in gardening in England was gained at Orton Longueville. Though more than forty years have come and gone since he was a dweller in the little bothy there, men are still to be found on the estate who well remember "Archie," and refer to him in speech most kindly. Always a quiet man, and capable of being silent (when he had nothing to say) in all languages, it is easy to picture him as a gentle youth, and peaceful; indeed, so peace-loving was, and is, his nature that it is said of him that he received a great shock on his first journey from the north by the announcement on a poster at Newcastle that war was declared with Russia. However, as Russia was somewhat in the opposite direction of his quest, he thought it as well to get as far from the scene of conflict as possible, and so pursued his journey southwards.

ROCKERIES AND CONIFERS.

An interesting feature of Orton is what may be termed the old rockery—really a series of dells and sunken paths, with a rough quaint arch formed over them here and there, and all embowered in the foliage of overhanging trees. The sides of the sunken paths are walled with rough stones, now moss covered and in places Fern clad, while Periwinkles or whatever will grow hang over the edges, and over these again Honeysuckles and Clematis force their way upwards where there is sufficient space and light between the jungle of Conifers and other trees. A more secluded miniature twisting glen it would not be easy to find, and the young Scotsman would feel safe there under the protection of Lady Huntly, for it was he and the late Marchioness who worked all day long together in piling up the stones. Her ladyship was artistic; her helper even then, as now, practical, said nothing would grow among the stones with a few handfuls of soil poked between them. He was right in regard to some of the piles, for in places little or nothing has grown between them to this day, but a good deal has grown on them.

IN COOL GROT AND MOSSY DELL.

First the Mosses, which in variety possess a charm of their own, covered the stones, then as the carpet thickened, sporeling Ferns sprang up, and eventually seedlings of *Thuja gigantea*, of which seeds are scattered in profusion from many a towering tree. One of the plants that grew in the moss on the face of a large boulder has attained the dimensions of a tree many feet in height, kept in position by an iron support, but its roots travelling down the side of the rock, have entered the soil at the base. On parts of this cave-like tangle of stones and trees. Moss and Ferns, the small leaved Periwinkles sparkle in blue and white and purple, double and single, from their cushion of glossy leaves. As "under tree" plants these have few rivals, though the flowers are the most profuse in light positions. Happily her ladyship lived to see this work of far past days mature and develop a charm which is of an out-of-the-way character and enjoyable; but many alpine plants which she loved so much could not there thrive, so Mr. Harding commenced making a rockery in the open.

THE LAWN ROCKERY.

On the lawn skirting the shrubbery dell a simple series of curling mounds of soil and stones, about 3 feet high, was formed, with twisting paths between them. On these raised rockery beds some 500 or 600 species of plants were established, and flourished as in their natural home. Here, as age and infirmities crept on, her ladyship spent many happy hours, and even when no longer able to walk was drawn in her small carriage to enjoy her cherished plants, and almost lived among them. Such is the solace and the comfort derived from flowers by those who love them and know them, for Lady Huntly was a botanist and recognised authority on British plants, and a friend and fellow worker of the late Rev. M. J. Berkeley. Had she lived some years longer there is no knowing how far this pretty lawn rockery would have spread. She died only a year or two ago, did this estimable lady, Mr. Barron's first English mentor, leaving behind her a cherished name, and it is evident that his is cherished too by many friends.

A WRECK AND SALVAGE.

Visitors to Orton two or three years ago and again now must note a striking change, a change brought about by violent means. A tornado swept through the district with terrific force, and uprooted many a giant of the forest and the garden. It was a memorable wreck that will leave its effect visible for many a year. Magnificent Cedars and other Conifers were laid low beyond the chance of restoration; yet by dint of strenuous endeavour several were raised to something like their original position, supported, watered, and made to grow. Among the lost was one of the grandest specimens of *Abies lasiocarpa* (or *concolor*) in the kingdom; another, and greatly missed, was an *A. excelsa*, with an extraordinary sweep of branches, as well as a notable specimen of *Pinus macrocarpa*, with its long leaves and immense cones. In some respects,

and here and there, perhaps, the storm might have done good in relieving crowded portions of the grounds, and widening the view from the mansion. Fortunately the two magnificent specimens which visitors greatly admire of *Libocedrus decurrens*, were left practically uninjured in their positions, standing like two sentinels, towering aloft as columns of dense deep green. Others, as has been said, that were forced to the ground were raised again, notable among these a grand example of *Cupressus Lewsoniana*, which for size, health, and colour can have few superiors in this country. Raising and saving so many must have been a work of great labour, and the success of it may fairly be regarded as a notable achievement in good gardening. Force raised them, but cultural knowledge and attention were requisite to make them grow. Mr. Harding is an extremely modest man, and probably never gave it a thought that he added a feather to his cap in saving so many cherished trees that most men would have regarded as hopelessly lost—victims of the hurricane.

WELLINGTONIAS, OLD AND YOUNG.

The Wellingtonia avenue at Orton is one of the finest features of the estate and the most imposing. We should have to travel far to find its equal—some of the trees, but not all, towering to a height of 70 or 80 feet. The difference in height and character is due to different methods of raising the trees. It is not only easy to see which were raised from seeds (these being the most lofty and best furnished) and which from cuttings, but the trained eye can detect those which were raised from good cuttings—upright and more or less terminal growths; and those from bad cuttings—more or less horizontal side branchlets. The former may make fairly good trees, but no man can make anything approaching satisfactory specimens of the other. In the early days of Wellingtonias the supply was scant and demand great, and had to be met as best it could; and besides many persons raised trees who did not then know good cuttings from bad. Mr. Barron was at Orton when the "Old Marquis," who was a great planter, used to bring tiny plants of Wellingtonias from London purchased for 3 guineas a piece. He subsequently planted hundreds, including those in the avenue, which stands a living monument of his love of trees. These avenue trees have been denuded of their lower branches, and the 2 or 3 feet in length of bold trunks impart picturesqueness to this long and notable vista. Mr. Harding has found the advantage of never clearing away the fallen leaves from beneath the trees. They are left to accumulate and form a thick cushion or mound of vegetation around each specimen, and he will scrape away the fluffy mass and show the roots with as much pleasure as if they were the Vine roots in a border under the mulching. Nature suggests many useful lessons if we would but profit by her teaching; but we must pass to the young trees—so young and small as to deserve a little heading to themselves.

WELLINGTONIAS FROM ENGLISH SEED.

Mr. Harding has raised many Conifers from home-grown seed especially perhaps *Thuja gigantea*, of which plants may be seen from 2 inches high to four times the height of himself, though not so far round as he is in the trunk, but although he has gathered many seeds from the Wellingtonias from time to time he has not until recently succeeded in raising plants. He has only two, so far, and they seem to be regarded by him as a precious possession. They are planted out, have passed the winter in the open, and though only 3 or 4 inches high look thrifty and promising. There is no mistake about them, and what Mr. Harding wants to know is this—Are there any others which have been obtained from English grown seed? He does not allege there is none, as there may be several, but he has not seen or heard of any, and will be obliged by authentic information on the subject through the *Journal of Horticulture*. Of course he will be glad, though he will not show it by the display of any elation, if his name should go down to posterity as being the first to have gathered Wellingtonia seed from trees in a British garden, and succeeded in raising plants therefrom forty years after the introduction of the Wellingtonia into this country from California in 1853.

FRUIT.

Fruit is rather extensively as it is well grown at Orton, and at the present time the promise is particularly bright. Apricots have set abundantly on walls, also Peaches; while of all other kinds, grown both against walls and in the open, the blossom is profuse and unusually fine. Mr. Harding is a believer in grafting old trees, also in preserving good old varieties. Some ancient gnarled old Apple and Pear trees that seemed to have little life in them, instead of being rooted out, were cut down, and grafts of free growing varieties established on them. They have grown as vigorously as young trees, and, in fact, produced more fruit than young trees have afforded that were planted at the time the grafting was done. A favourite Apple at Orton, because an abundant bearer and profitable, is the Baldwin, such large consignments of which arrive in this country from America. It is a winter Apple, and another still later and valuable as grown in the same garden is the Striped Beefin. As an early culinary Apple Mr. Harding sets much store by what he may well call the Orton Foundling, for he found two ancient trees there, and no one has been able to determine the name of the variety. The fruit is ready for gathering as early as the Codlins, is as large as any of them, but instead of being greenish yellow is crimson, somewhat of the colour of Beauty of Kent, but the fruits less conical. Samples have been placed before the Fruit Committee of the R.H.S., but they were sent late, for the variety, and "got nothing." That, however, was not of consequence, as they "make more" in Peterborough than any others that are in the market at the same time, while they are

preferred to any for family use. Certain Apples appear to be partial to particular soils and localities, and it may be said of the Orton Foundling that it has found a congenial home and appreciative friends.

A DUAL PEACH TREE.

Though half of this tree at least is a Nectarine, and the other half may be, still the above heading is not incorrect, seeing that the Nectarine is a Peach with a smooth instead of a downy skin. It is rather a curious tree all the same, especially as regards its origin. Mr. Harding being fond of raising seedling trees placed the stone of a Peach in a small pot of soil—only one stone be it noted—to see what it would bring forth. It has brought what he did not expect—two trees, and not only so, but two varieties, one of which has fruited, and proved to be a Nectarine, and the other is setting fruit. But it may be said that is not evidence of two varieties. It is not, but the flowers settle the point, because one of the twins has small flowers of the Royal George type, the other large, of the character of the Noblesse. Yet both the varieties are the products of one seed. Some Palms produce seeds with two embryos, but whether Peaches are prone to do the same such raisers of seedlings as Mr. Rivers can best inform us. The twins give promise of a good crop of fruits this season, both from large flowers and small, and the development of the fruits will be watched with some interest by the raiser.

AN INVITATION TO MR. BARRON.

Orton is an interesting garden, and Mr. Harding is just such a gardener as Mr. Barron—quiet, with a greater store of knowledge than appears on the surface, competent, practical, and successful. He thinks it time that "Archie," who was present at the planting of several of the baby trees, called to see how they are getting on, and it is certain that no one would be more welcome than he at his first English resting place of more than forty years ago. There has been at least one link of association between Orton and Chiswick, for Mr. Harding's son has served under Mr. Barron, and proved one of his most satisfactory pupils. "Charley" is now doing well at Gunnersbury Park, and as he takes after his father, both as a student and a worker, he may be expected to make a first-rate gardener for someone when the right time comes. It is certain the time has come for one thing—namely, laying down the pen by—AN OLD FRIEND.

NITROGENOUS AND OTHER MANURES FOR FRUIT TREES.

In a previous note on this subject (page 283) it was shown that compounded manures in a great measure owed their utility to a due proportion of each of the elements—potash, phosphates, and nitrogen, and high authorities were quoted in proof of the functional interdependence of each of those elements on the others. It has already been shown why nitrogenous manures so distinctly mark the effect of their application on the foliage and growth. The stimulating effect of nitrogen on vegetation is apt to induce the belief that the other elements of plant food are of secondary importance; this is a fallacy, and the highest authorities agree that a soil destitute of any one element may become more or less barren, since it is the minimum and not the maximum of others which is the measure of fertility. Therefore a soil holding one or more elements in too small proportions (which may soon be used up), its degree of fertility can only be gauged by its weakest link. For this reason the application of certain manures which contain but few elements of plant food may prove effective under certain conditions, because the application of those elements which previously were the minimum quantity are thus brought up to the maximum, and the plant or crop is able to carry out effectively its functions of growth.

Amongst the manures containing but few elements of plant food are nitrate of soda, sulphate of ammonia, kainit, phosphates, basic slag, sulphate of iron, and magnesium sulphate. Therefore if the soil is deficient in one or more of the elements contained in those simple manures their application, separately or combined, as the case may be, is needed to restore its fertility. It must be understood that if nitrogen is deficient there will be little or no growth, because without it the physical basis of the life of the plant, the protoplasm, cannot be built up. The same may be said in reference to phosphorus and sulphur, which are needed to that end in addition to the carbon, hydrogen, and oxygen, of which this wonderful substance is composed. We have also to realise that as the physical basis of life this substance is endowed with life and energy capable of functional activity in the elaboration and assimilation of the food elements.

In reference to these functions, it has been demonstrated by Sachs that although potash is no part of the carbo-hydrate series resulting from the elaborative processes, yet it must be functionally present, or no starch is formed; if no starch, it being the foundation of the carbo-hydrate series, then no carbon; if no carbon, no cellulose; and if no cellulose no increase in growth. This interfunctional bearing which one element has of necessity on the others can be traced all through the life processes of the plant; it must therefore be evident that the elements of plant food must be obtained from some source, and that separately and combined they are as necessary to the functional activity of the plant as fuel is to the engine before work can be begun.

Sulphur has been mentioned as being an essential component of the protoplasm. An interesting point for discussion is that the pollen grains are simple free cells of extremely active protoplasm, containing a larger proportion of sulphur than ordinary cells. Let us for a moment consider the case of fruit trees—viz., Apples, Pears, Plums, Cherries,

Peaches, or Strawberries, which, having a heavy show of bloom year after year, what may be the consequences of the supply of soluble sulphur being thus used up, this deficiency being spread over the thousands of blossoms showing on a single tree? How far this would affect the potency of the pollen would be an interesting point to determine, because independent of the effects of frost many cases are known when the heaviest show of bloom has resulted in a thin crop of fruit following in its wake.—AZOTA.

ROYAL HORTICULTURAL SOCIETY.

DRILL HALL, APRIL 21ST.

THE display of flowers at the Drill Hall on Tuesday was a brilliant one, the whole of the Hall being packed with exhibits. The stands were numerous, and the products of an exceptionally high quality, for which attribute the Orchids were conspicuous. Narcissi and Vegetables were well though not largely shown before the respective Committees. A considerable amount of space was occupied by the exhibits in the Primula and Auricula show, a report of which will be found elsewhere.

FRUIT COMMITTEE.—Present: P. Crowley, Esq. (in the chair); with Rev. W. Wilks, and Messrs. H. Pearson, G. Bunyard, J. Cheal, A. F. Barron, A. H. Pearson, T. Fife, W. H. Divers, G. Norman, J. Smith, F. Q. Lane, C. Herrin, W. Pope, T. Farr, J. Willard, T. J. Miles, A. J. Laing, A. Dean, T. H. Crasp, G. Sage, H. Balderson, and J. Wright.

Mr. F. Marsh, Priory Nursery, Warwick, sent a dish of Apples named Countess of Warwick, no doubt a useful Apple, as it was decided to be either Beauty of Kent or bore such a close resemblance to it as to preclude its being regarded as a distinct variety.

Mr. H. Thorne, gardener to the Maharajah of Durbungah, sent a Gourd—*Lagenaria vulgaris clavata*, between 5 and 6 feet long and 12 to 16 inches in circumference, a remarkable specimen, for which a vote of thanks was accorded.

Mr. Empson, gardener to Mrs. Wingfield, Ampthill, sent a dish of Royal Sovereign Strawberry. Mr. Wythes also sent splendid fruit grown ten to each forced plant. The fruits were large, fresh, and bright, a cultural commendation being unanimously granted for both the exhibits.

Mr. Wythes sent a basket of heads, 1 to 3 inches across, of Sutton's Bonquet Broccoli, which produces six to eight heads to a plant; also a basket of Sutton's Late Queen Broccoli—excellent heads, but no award was made.

Mr. J. Crook, The Gardens, Forde Abbey, Chard, sent excellent fruits of Sturmer Pippin Apples, which had been stored in cases for six months. He also sent bulbs of Forde Long Keeper Onion, sown in the autumn of 1894, and perfectly sound (vote of thanks).

Mr. G. Page, gardener to J. B. Fortescue, Esq., Bonconna, Lostwithiel, sent a dish of Apple Ironsides, a medium size crimson fruit, resembling a cider variety, and no award was made.

Radishes were sent from Chiswick, fine bunches of Vilmoren's Extra Early Olive shaped, scarlet; also extra Early White, the earliest at Chiswick, sown March 5th. These are no doubt valuable first early Radishes, they bulb quickly, producing very little leaf growth. The Chairman brought fruits of Bismarck Apple, admirably kept, and in quality quite good enough for dessert purpose.

Mr. Wythes sent an excellent collection of vegetables, including very fine new Potatoes, also superior Asparagus, Seakale, Cabbage, French Beans, Mushrooms, besides Broccoli, and other kinds. Mr. Empson also staged an imposing display from Ampthill, including magnificent heads of Veitch's Model Broccoli, enormous Leeks, with Cabbages, Seakale, Asparagus, Mushrooms, Beans, Potatoes, and Cucumbers. Silver medals were granted for both these collections. A large display of bottled fruits and vegetables was arranged in the particularly convenient and excellent glass bottles of Messrs. G. V. De Luca, Hill & Co., Long Lane, Aldersgate Street. A bronze medal was granted for the bottles at a previous meeting, and this was now superseded by a silver medal. Some of the fruits were in syrup, others in pure water, and all good.

FLORAL COMMITTEE.—Present: W. Marshall, Esq. (in the chair); with Messrs. H. B. May, H. Herbst, J. H. Fitt, G. Stevens, J. Jennings, Jas. Hudson, J. F. McLeod, Thos. Peed, J. D. Pawle, Chas. E. Shea, H. J. Jones, E. Beckett, R. Owen, G. Pawle, H. Selfe Leonard, J. Fraser, R. M. Hogg, G. Nicholson, C. Jefferies, J. Walker, R. Dean, and H. Turner.

Mr. T. S. Ware, Tottenham, was represented by a collection of hardy flowers in the form of an attractive group, including *Spiræas multiflora compacta* and *astilroides*, *Ranunculus amplexicaulis*, *Adonis pyrenaica*, *Saxifraga Camposi*, *Fritillaria meleagris*, *Trillium grandiflorum*, *Primulas Sieboldi* in variety, *Cypripedium pubescens*, *Iris pumila*, gold-laced *Polyanthuses*, and other fine flowers of similar character. Double Ghent Azaleas in variety came from the nurseries of Messrs. W. Cutbush & Son, Highgate, which were extremely attractive, and composed of such varieties as *Orphiric*, *Raphael de Smet*, *chromatella major*, *Aethusa*, and *Graf Von Meran*.

Messrs. Paul & Son, Cheshunt, showed hardy flowers in great variety. Amongst others were noticed *Saxifraga muscoides purpurea*, and several others, *Tiarella cordifolia*, *Alyssum podolicum*, *Andromeda polifolia*, *Hutchinsia alpina*, *Aubrietia purpurea*, *Phlox stellaria*, *Primula Cashmeriana*, *Geum montanum*, and *Ribes*, *Forsythias*, *Lilacs*,

Spiræas, and *Prunuses* in variety. Messrs. J. Peed & Sons, Norwood, as usual sent a pleasing collection composed of Azaleas, *Clivias*, *Ericas*, and other flowers tastefully arranged with Palms and Ferns, the whole forming a pretty group.

Messrs. J. W. Silver & Co., Norbury, sent plants of a hardy purple *Primula Dr. Jameson*, of compact habit and apparently very floriferous. From Messrs. Jas. Veitch & Sons, Chelsea, came a fine and interesting group of flower and foliage plants, consisting of *Tillandsias Zahni*, *Pimelea spectabilis*, *Epiphyllum Russellianum Gaertneri*, *Boronia serrulata*, *Maranta majus*, *Boronia megastigma*, *Nidularium Meyendorfi*, *Hydrangeas japonica rosea*, and *hortensis variegata*, *Calla Elliottiana*, *Wistaria sinensis*, *Cerasus pseudo-cerasus* (Waterers' Cherry), *Rhododendron Schlippenbachii*, and others.

A charming collection of Ferns came from Mr. H. B. May, Upper Edmonton, in which *Pterises serrulata gracilis*, *tremula elegans*, *Cretica Wimsetti*, and *Reginæ*, *Davallia decora*, *Adiantum farleyense*, *rhodophyllum*, *Veitchi*, *Collisi*, and *tenerum*, together with various others were represented.

A superb stand of *Gloxinias* came from Messrs. J. Laing & Sons, Forest Hill. The colours were splendidly diversified and the flowers were of much size and substance. Messrs. Barr & Son, King Street, Covent Garden, had a collection of Daffodils comprising almost all of the leading varieties. The same firm also staged a few hardy Alpine plants, including *Irises*, Dutch Tulips, and others. From Messrs. J. Cheal & Sons, Crawley, came a varied and interesting collection of hardy flowering shrubs, besides splendid *Violas* of bedding varieties and some *Polyanthus* in pots.

Mr. C. Turner, Royal Nurseries, Slough, had a group of *Primula Sieboldi*, including the majority of the best named varieties. The same firm also staged a plant of *Calla Elliottiana* and flowers of *Carnation Countess Carrington*. Mr. R. Dean, Ranelagh Road, Ealing, sent a collection of *Primroses* of various colours and some plants of gold-laced *Polyanthuses*. Blue *Primroses* of exceptionally rich hues were contributed by Messrs. J. Veitch & Sons, Chelsea, while Mr. W. Bain, gardener to Sir Trevor Lawrence, Bart., showed *Anthurium Lawrenceanum elegans*.

Large and brilliantly effective were the several boxes of *Roses* exhibited by Mr. G. Mount, Canterbury. Amongst the most conspicuous were *La France*, *Catherine Mermet*, *Ulrich Brunner*, *Mrs. John Laing*, *Madame Montet*, *Baroness Rothchild*, and *The Bride*. The colour in each case was exceptionally rich. *Wallflower Eastern Queen* was shown by Messrs. Dobbie & Co., Rothsay. Mr. J. Walker, Thame, Oxon, showed *Roses Niphetos*, *Maréchal Niel* and others, arranged in boxes. They were exceedingly attractive. *Amaryllises Dizzle*, *Hon. Maurice Gifford*, *Dr. Masters*, *Leviathan*, *Mrs. Nottage* and others, with some named *Pæonies*, came from Messrs. B. S. Williams & Son, Upper Holloway.

Mr. J. Empson, gardener to Mrs. Wingfield, Ampthill, Beds, sent a plant of *Trillium grandiflorum* in a 14-inch pot, which was nothing less than a mass of the pure white flowers. It was a splendid example of good culture. The Guildford Hardy Plant Nursery, Guildford, was represented by a collection of alpine in great variety.

Size, diversity, and richness of colour were the attributes that must be attached to Mr. Frank Cant's exhibit of *Roses* from Colchester. The flowers were comprised in four boxes, and it was the exception to find a really faulty bloom. Prominent were *Madame Gabriel Luzet*, *Mrs. John Laing*, *Maréchal Niel*, *Dr. Andry*, *Susanne Marie Rodocanachi*, *Comtesse de Nadaillac*, *Duke of Wellington*, *Niphetos*, *Ulrich Brunner*, *Caroline Testout*, and *Ernest Metz*. J. H. Arkwright, Esq., Leominster, staged flowers of *Primrose Evelyn's Beacon*; and Messrs. R. Wallace & Co., Colchester, three pots of *Erythroniums*, including a charming new species named *E. Johnsoni*.

A pretty group of hardy flowers was sent by Mr. W. H. Divers, gardener to the Duke of Rutland, Belvoir Castle, Grantham, and included *Irises*, *Rhododendrons*, *Camellias*, and many others.

Competitive Exhibits.—A. Kingsmill, Esq., Harrow Weald, was awarded a first prize for eighteen varieties of *Narcissus*, showing amongst others *Stella*, *Ellen Barr*, *Frank Mills*, *Autocrat*, *Mrs. Langtry*, *Barri conspicuus*, *Beauty*, and *Harper Crewe*. The same exhibitor was first with eight varieties of yellow and bicolor *Ajax Narcissi*, showing *Empress*, *Mr. J. Berkeley*, *Princess*, *Horsefieldi*, *Major*, and others. The Rev. G. H. Englehart, Andover, was also awarded a first prize for a group of *Narcissi*, which contained some beautiful flowers of the poeticus section.

ORCHID COMMITTEE.—Brightly beautiful was the group of Orchids arranged by Messrs. J. Veitch & Sons, Chelsea. Excellent health characterised the many splendidly flowered plants, amongst which the most conspicuous were *Lælia latona*, *Lælio-Cattleya Pallas*, *Cattleya Lawrenceana*, *C. Mendeli*, *C. Schöleræ eximia*, *C. S. aurea*, *Lycaste cruenta Rossiana*, *Cypripedium Drurio-Hookeriæ*, *Dendrobium Wiganii*, *Cymbidiums*, *Oncidium varicosum Rogersi*, *Odontoglossums* in variety and many others (silver Flora medal).

Messrs. Hugh Low & Co., Upper Clapton, staged a charming exhibit including *Cattleya Lawrenceana grandis*, *Odontoglossum luteo-purpureum magnificum*, *Cypripediums*, *Dendrobiums*, *Oncidiums*, and others. Mr. W. E. Ledger, 5, Wilton Road, Wimbledon, sent a plant of *Dendrobium lingueforme*, and Mr. J. Douglas, Great Gearies, flowers of *Phaius Cooksoni*. De Barri Crawshaw, Esq., Sevenoaks, sent *Odontoglossum Andersonianum hebraicum* and *O. A. Rosefield* variety; G. W. Schofield, Esq., Rawksfield, exhibiting *Cypripedium Schofieldianum*.

Mr. W. Buckill, gardener to M. S. Cooke, Esq., Kingston Hill,

showed a few Orchids, comprising *Cymbidium Lowianum* and *Odontoglossum Halli*, crispum in variety, *Rossi majus*, *maculatum*, and *Pescatorei*. The exhibit from Messrs. Sander & Co., St. Albans, was composed of finely grown and flowered plants of *Cypripedium macropterum*, and *hirsutissimum*, *Cattleyas* *William Murray*, *Schroderæ*, *S. alba*, *Mossiae*, and *citrina*, *Dendrobium O'Brienianum*, *Coclogyne Dayana*, *Epidendrum patens*, *Lycaste Skinneri*, and *Odontoglossum vexillarium*, *crispum*, *Pescatorei*, and *maculatum* *Donnianum*.

Mr. Davis, gardener to G. Gurney Fowler, Esq., Woodford, sent flowers of *Cattleya Schröderiana* Miss G. Fowler, a pale form of great beauty. Mr. W. H. White, gardener to Sir Trevor Lawrence, Bart., Burford Lodge, Dorking, sent fine plants of *Eria æridostachya*, *Cypripediums* *Charles Richman*, *Mesospinidium vulcanicum*, *Polystachya Ottoniana*, *Dendrobium Wiganæ* Burford variety, *Cypripedium villosa* Boxalli, *C. carnosianum*, *Dendrobium Euterpe*, *Masdevallia caudata* Shuttleworthi, *Cypripedium Chamberlainianum*, *Cochlioda Noëziana*, *Dendrobium capillipes*, *D. crepidatum*, *Cypripedium "The Pard,"* *C. macrochilum*, *Cymbidium tigrinum*, *Odontoglossum triumphans nigratum*, and a few others (silver Banksian medal).

Mr. R. Gulzow, The Melbourne Nurseries, Bexley Heath, sent plants of *Lælia purpurata*, interspersed with a few other Orchids and foliage plants. Mr. Masterton, gardener to W. S. Ellis, Esq., Dorking, sent some charming plants of *Odontoglossum* in variety (silver Banksian medal); while Mr. R. Aldous, gardener to H. T. Pitt, Esq., Stamford Hill, arranged a beautiful group of Orchids. Amongst the best were *Miltonia Rœzli alba*, *Dendrobium thyrsoiflorum*, *Odontoglossum* in variety, with *Cypripediums* and *Cattleyas* (silver Banksian medal). R. B. White, Esq., Gareloch ad, showed some splendid spikes of *Odontoglossum* in variety (silver Banksian medal).

CERTIFICATES AND AWARDS OF MERIT.

Amaryllis *Hon. Maurice Gifford* (B. S. Williams & Son).—Rich deep crimson scarlet is the colour of this *Amaryllis*. The flower is of considerable substance, and fair size (award of merit).

Amaryllis *Viscountess Hambledon* (Mr. Perkins).—Very bright red, with a green eye. The size is large, and the form good (award of merit).

Anthurium Rothschildianum elegans (W. Bain).—A charming form of the type. The spathes are of medium size, pale rose in colour, blotched with scarlet (award of merit).

Carnation Countess Carrington (C. Turner).—A pale yellow variety, with a large flower. The pod does not split, but there is no scent (award of merit).

Cerasus pseudo-cerasus (J. Veitch & Sons).—The flowers of this Cherry are very large and striking. The colour is delicate blush white (award of merit).

Cheiranthus Harpur Crewe (Paul & Son).—The bright yellow profusely borne flowers of this plant are very attractive. The habit is dwarf (award of merit).

Cineraria double (Sir H. Peto, Bt.).—Evidently a splendid strain. The flowers have rich colour and size (award of merit).

Cypripedium Schofieldianum (G. W. Schofield).—Resulting from a cross between *C. hirsutissimum* and *C. bellatulum*, this is superb. The petals are broad, creamy white in colour, very heavily spotted rich reddish brown. The dorsal sepal is green in the centre, and with white margins veined and spotted purple (award of merit).

Dendrobium Wiganæ (J. Veitch & Sons).—A hybrid between *D. signatum* and *D. nobile*, this is very charming. The sepals and petals are creamy white suffused with rose. The lip is yellow, with a rose tip and a velvety maroon throat (award of merit).

Dendrobium Wiganæ, *Burford variety* (W. H. White).—A larger form of *D. Wiganæ* than that of Messrs. Veitch & Sons (award of merit).

Epidendrum Endresio-Wallisi superbum (J. Veitch & Sons).—The type of this was staged some time ago, but this is a decided improvement in all respects (first-class certificate).

Juniperus communis aurea (Paul & Son).—This is a variety of Juniper with bright yellow-tipped leaves (first-class certificate).

Maranta major (J. Veitch & Sons).—A tall-growing form with rather large leaves of a bright green colour (award of merit).

Myosotis Reichenieri (Paul & Son).—Very dwarf indeed is this Forget-me-not. The colour is clear blue (first-class certificate).

Primula Dr. Jameson (J. W. Silver & Co.).—A floriferous dwarf-growing *Primula* with rich purple flowers (award of merit).

Rhododendron Schlippenbachii (J. Veitch & Sons).—A hardy *Rhododendron* with delicate rose-coloured flowers (award of merit).

Subsequent to the preparation of the foregoing report we have received the following official list of medals, in which it will be noticed that Messrs. Barr & Son are credited with both a silver-gilt and a bronze medal for hardy flowers.

Silver-gilt Flora medals were accorded to Messrs. J. Veitch & Sons for hardy plants; Barr & Son for hardy flowers; G. Mount for cut Roses. Silver Flora medals went to Messrs. Paul & Son for alpine and standard *Cytisus*; J. Walker for cut Roses; F. Cant for cut Roses; T. S. Ware for hardy herbaceous plants; Guildford Hardy Plant Nursery for alpine; H. B. May for Ferns; C. Turner for *Primula Sieboldi*; J. Laing & Sons for *Gloxinias*. Silver Banksian medals went to Messrs. J. Peck & Son for a group of plants; Cutbush & Sons for double *Azaleas*; J. Cheal & Sons for hardy shrubs; F. W. Moore for hardy shrubs. Bronze Banksian medals were accorded Messrs. B. S. Williams & Son for *Amaryllis*; Barr & Son hardy flowers, and W. H. Divers for hardy flowers.

LAPEYROUSIA.

IN this genus we seem to lose the prevailing characters of the Irid family, at least as regards their general aspect. In the place of a perianth with the inner and outer series of divisions differing considerably in appearance, the petals and sepals are similar in form, colour, and direction. This imparts a most distinctive effect to the flowers; and a casual observer would scarcely suspect them to be allies of the Irises. Though the flowers are smaller than those of many others in the order, they are brightly coloured in some forms, and are produced in sufficient numbers to render them equally as attractive and pleasing as many of more pretensions. Seventeen or eighteen species are known, but few are in cultivation, and to these the preceding remarks chiefly



FIG. 64.—LAPEYROUSIA CORYMBOSA.

apply, as, judging by figures that have been published, some are far from ornamental either in form or colouring. They are all natives of the Cape, with small bulbs, and bearing racemes or corymbs of flowers in the spring. They are best grown in the cool house, though *L. corymbosa* is occasionally grown outside in warm sheltered positions.

Probably the latter is the most widely known species, and either under the names of *Ixia* or *Ovieda* it may be found in many collections both in England and on the Continent. This is partly due to its own attractions, and partly to the fact that it has been longest in cultivation. It is one among the numerous plants discovered by Thunberg at the Cape of Good Hope, where it was chiefly found in sandy positions in Swartland, and subsequently introduced a few years before the close of the eighteenth century. The specific name was applied in reference to the inflorescence, which is corymbose in form—a good distinguishing mark, as in most of the others it is spicate or racemose. The flowers are composed of six ovate segments, bright blue in colour, with a white and dark blue-angled band encircling the central portion of the flower, and near the base of the segments. The angles are acute, and extend about half the length of the petals, thus giving a peculiar star-like appearance to the flowers. These are clustered on lax slender stems, the leaves being very narrow and tapering. The woodcut (fig. 64) conveys a fair idea of a corymb of the flowers.

DAFFODILS AT DITTON.

To almost all readers of the *Journal of Horticulture* the above heading will have a very familiar ring, and one which is always synonymous with something good. Those who were fortunate enough to be able to visit the Daffodil show at Regent's Park last week could not fail to be impressed by the magnificent collection of flowers that was staged by Messrs. Barr & Son, King Street, Covent Garden, and which so well represented, though on a very small scale, the extent and diversity of these flowers as they are grown at Ditton. But to grasp to the full the beauty of these *Narcissi* they should have been seen at home a few days ago, as they doubtless were by many thousands of people, when acres of the delicately hued flowers were at the summit of their beauty.

For some few years in succession it has been the privilege of the writer to see these large nurseries at more than one time in each season, and the visits are still as full of interest, and anticipated with as much pleasure as when the initial pilgrimage was made. One is certain to find much to engage the attention at all times, but never more than in the Daffodil days, when besides these may be seen *Muscari* from pale blue to almost black; *Hyacinths* of all colours; the famous "Rainbow" Tulips, ably upholding their name; besides other plants in large numbers. There are those that interest the gardener, and others that arrest the footsteps of the botanist; but it was as one of the former that I made my way to Surbiton by train, and thence on foot to the nurseries, and I propose to mention a few varieties that appeared particularly striking, and thus most useful to my brethren of the craft.

At the show above mentioned the flower of flowers in this firm's stand—in fact in the whole exhibition—was unquestionably *Weardale Perfection*, with its massive, upstanding yellow and white blooms. But equal to it in every way at Ditton was *Glory of Leyden*, which is fortunately quite distinct from the first named in colour, and thus may advantageously be grown side by side with it in the garden. The immense flowers of this one are yellow in shade, and very imposing. Quite as beautiful, though in perhaps a more modest way, was *Madame de Graaff*, of which the perianth is almost pure white, and the trumpet a singularly pleasing shade of pale lemon yellow. While these three stand pre-eminent in the Ajax section, there are many others of great merit, and of which bulbs may be had at considerably lower prices. Amongst these may be mentioned *Emperor*, *Empress*, *P. R. Barr*, *Horsefieldi*, *Santa Maria*, *maximus*, *Mrs. H. J. Elwes*, *Marchioness of Lorne*, *Lady Grosvenor*, *Dean Herbert*, *Johnstoni* *Queen of Spain*, *Golden Spur*, *Henry Irving*, and *Golden Vase*, the majority of which will be perfectly familiar to Journal readers.

Turning now to the section of which a medium-sized crown is the predominating feature, we come to some of the most beautiful members of the whole family, which is useful alike for providing ornaments in vases and other receptacles in the house, as well as for the adornment of the garden. Their utility does not, however, end here, as most of the varieties are admirably adapted for culture in pots in the greenhouse, though as a matter of fact there are forms in each of the sections that are in every respect suitable for this purpose. Of all the varieties in this section, new or old, none is more popular than *Sir Watkin*, and one would be almost justified in terming it the king of *Medii-coronati*. No space need be wasted in describing it, so well is it known. *C. J. Backhouse* is extremely beautiful, the perianth segments being yellow, while the rather long cup is deeply margined with orange-scarlet. It is a favourite with almost everyone who knows it, and the same may be said of the well-known *Barri conspicuus*, which, though it has been in commerce some years now, is still one of the most extensively cultivated. At Ditton there was a drift of this variety which our guide computed to contain 100,000 bulbs, a number that most people would consider ample. It may be interesting to note that to several sorts quite as large pieces of ground are devoted.

Gloria Mundi, though much larger than *Barri conspicuus*, reminds one very forcibly of that variety by reason of its colour, while *Barri Sensation* has white instead of yellow perianth segments, and a canary yellow cup. Besides those mentioned there are a number of varieties of the *Leedsii* type, many of which are superb, and all charming. Many of the forms are possessed of a delicate fragrance that is very pleasant, and assists materially in extending their popularity. *Grand Duchess*, *Katherine Spurrell*, *Minnie Hume*, and *Duchess of Westminster* are four of the best. Included also in this section are the varieties of *Backhousei*, *Nelsoni*, *Bernardi*, *odorus*, *triandrus*, and *Humei*, all of which are possessed of a considerable share of beauty, and consequently are somewhat extensively grown.

Group three is termed *Parvi-coronati*, the small crowned or true *Narcissus*, in which the forms of *Burbidgei*, *poeticus*, and *jonquilla* are the most conspicuous. Of the former *Ellen Barr*, *Princess Louise*, *Model*, and *Falstaff* are very fine, while of the *poeticus* the premier position may be accorded to *poetarum*. Then everyone knows the ordinary form that is so largely grown, as well as the earlier-blooming *ornatus* which is such a favourite with most growers. *Grandiflorus* is well named and it with *tripodalis* must not be despised.

Mention so far has not been made to the many double varieties that were in flower. The common double Daffodil (*telamonius plenus*) was in grand form; *Queen Anne's Double* was beautiful, while the varieties of *incomparabilis* known as *Codlins and Cream*, *Butter and Eggs*, and *Eggs and Bacon* with the double *Jonquills* lent a colour, diversity, interest, and beauty to what is probably one of the finest and most complete collections of Daffodils in this country.—VISITOR.

SPRING SHOWS.

BRIGHTON.—APRIL 14TH AND 15TH.

THIS was not the best exhibition of spring flowers and plants we have seen in the Dome and Corn Exchange under the new management, but if it contained no startling exhibits there were few bad ones. Groups were pretty, especially the first and second in the higher class, and if Mr. J. Turner, gardener to Sir Greville Smythe, Wick Hall, Hove, had a trifle more colour he would no doubt have been placed in front of Mr. G. Miles, Dyke Road, Brighton. Mr. Miles has been very successful with groups, setting up our commonest greenhouse plants with better effect than the majority obtain with choicer specimens.

Mr. G. Simms, gardener to C. J. Inwood, Esq., Dyke Road, Brighton, won with a group open to gentlemen's gardeners, and Mr. J. Lewis, 37, Preston Road, Brighton, was a good first with one open to amateurs only. Orchids were poor, Mr. H. Garnett, gardener to R. Fletcher, Esq., being first for a small table of only second rate merit. Tulips, *Hyacinths*, *Mignonette*, *Lily of the Valley*, *Lachenalias*, and *Primulas* were numerous and of fairly good quality. One of the most successful competitors was Mr. M. Tourle, gardener to F. Borchard, Esq., Little Horsted.

As usual, Mr. E. Meachin, gardener to Mrs. Armstrong, Woodslee, Preston, was prominent in many classes, some of his best exhibits being *Cyclamen*, *Hydrangeas*, *Show* and *Fancy Pelargoniums*, *Deutzias*, *Azaleas*, *Callas*, *Roses* in pots, and table decoration. Cut *Roses* were indifferent. In one box of twelve no less than five were wrongly named. Mr. G. Miles was first in a class for twelve blooms, and Mr. T. Fairs second. For six table plants Messrs. W. Miles & Co., Hove, were awarded first; Mr. L. Wickens, gardener to Mrs. Dawson Rowley, Chichester House, Kemp Town, winning with a very neat and pretty table of plants arranged for effect.

Some good stands of non-competitive exhibits were set up, among the best being Messrs. Balchin & Sons, Brighton and Hassocks, who had some well-grown *Azaleas*, *Liliums*, *Boronias*, *Acacias*, and *Anthuriums*. Messrs. Barr & Son, Covent Garden, staged a magnificent collection of *Narcissi*; and Messrs. Cutbush & Sons, Highgate, a fine stand of mixed, chiefly of hardwooded greenhouse plants.

NEWCASTLE.—APRIL 15TH AND 16TH.

AT the Newcastle spring flower show, which was held on the above dates, the display was considered to be the best in the experience of the Society for the time of year. In some respects there was a slight falling off in the number of entries, owing to causes that are easily accounted for; but some of the classes, on the other hand, were characterised by a considerable addition of strength. Perhaps the most important feature of the exhibition was the display of bulbs. There was, says a local contemporary, quite a remarkable presentation of *Hyacinths*, the competition being so keen that in two or three cases the judges were compelled to point the flowers. Double Tulips also were worthy of special mention; as a matter of fact there has never been such a fine show of this flower in the annals of the Society. Orchids were more numerous and of finer quality than usual, and the groups were the subject of great admiration. Amongst miscellaneous exhibits Mr. Oliver of Eslington, gardener to Lord Ravensworth, had a group of hardy *Primroses* and *Violets*; and Messrs. W. Fell & Co. of Hexham a fine stand of foliage plants. The arrangements were in the hands of Mr. J. J. Gillespie, jun. (Secretary), and members of the Council.

In the open division the premier award for a group of miscellaneous flowering and foliage plants arranged for effect, went to Mr. J. McIntyre for a charming exhibit, Mr. J. Wood, Morpeth, the only other competitor, being second. In the class for three plants of *Azalea indica* in distinct varieties, Mr. J. McIntyre was again first, Mr. H. Hillier being second and Mr. P. Blanchard third. For three Orchids, distinct, Mr. T. Wheeler secured the leading position, followed by Mr. J. Wood, while in the class for four *Dielytra spectabilis* the prizes went to Messrs. W. Pitt and W. J. Boyd as named. For four pots of *Amaryllis*, Mr. J. Wood was first, Mr. J. McIntyre second, and Mr. D. Wylam third. Mr. T. Wheeler secured the premier prize in the class for four *Deutzia gracilis*, Mr. P. Blanchard being second, and Mr. G. Corbett third.

Mr. J. McIntyre again took the lead in the class for six plants of *Spiraea japonica* with highly creditable examples; the second and third prizes going to Messrs. J. Wood and J. Charlton in the order of their names. For six *Cinerarias* Mr. W. Pitt was first, Mr. W. J. Boyd second, and Mr. T. Wheeler third. In the class for six Chinese *Primulas* Mr. G. McDougall was first, Mr. J. Wood second, and Mr. T. Mitchell third. For four pots of *Cyclamen persicum* Mr. Jos. Gardner was first, Mr. W. J. Boyd being second, and Mr. F. Edmondson third. Messrs. W. Handysides and J. McIntyre were the prize akers for six pots of *Lily of the Valley*; while for six plants suitable for table decoration the prizes went to Messrs. J. McIntyre and G. Wheeler in the order in which the names are here given. Auriculas and Polyanthus were staged in fair numbers and condition, amongst the chief prizewinners being Messrs. R. Patterson, T. E. Hay, Geo. Lee, and J. Cowthorne.

As already stated, the *Hyacinths* made a brilliant display, and proved a tremendous attraction to the visitors. For twenty-four, in not less than twelve varieties, one in each pot, Mr. G. McDougall was first, Mr. T. Wheeler second, and Mr. D. Wylam third. For twelve, in not less than nine varieties, Messrs. T. Wheeler, D. Wylam, and J. Woodtenham took the awards as named. The winner for nine pots of single Tulips was Mr. G. McDougall, followed by Messrs. J. Woodtenham and T. Wheeler. For six pots of double Tulips the first and second prizes went as in the

previous class, the third going to Mr. E. Callaghan. Mr. T. Wheeler took the first prize both in the class for four pots of *Polyanthus* *Narcissi*, and for four pots of *Daffodils* distinct.

Cut flowers made a very attractive display, and were, on the whole, very well shown, there being classes for *Camellias*, *Rhododendrons*, *Azaleas*, *Roses*, and *Pansies*. Prominent as prizewinners in this section were Messrs. H. Hilliar, J. Wood, G. McDougall, W. Laws, M. Wheatley, and the Rev. C. E. B. Bell; while in the table decorations, bouquets, and sprays, Messrs. F. Edmondson, Perkins & Sons, G. Corbett, and Miss Edmondson were noticed as successful exhibitors. There were also several other classes, but as the exhibitors and prizewinners were principally the same as those already named, it will serve no useful purpose to go into details.

The classes in the amateurs' section were fairly well filled, and capital examples of culture were staged. Chief amongst the prize-winners were Messrs. J. Gardner, J. Battensby, D. Wylam, T. Battensby, J. Ellison, and W. L. C. Leach.

BIRMINGHAM DAFFODIL SHOW.—APRIL 16TH AND 17TH.

THE enterprising promoters of this deservedly popular show were justified in their anticipations of a ready response both by amateurs and the trade, and the display was equal to either of its predecessors. There was, however, a falling off in the miscellaneous section, and the unpropitious weather, especially on the first day, militated against a good attendance of visitors. Fortunately the prevailing fine weather on the second day caused a very good attendance, and a considerable advance financially was effected altogether. The arrangements, as usual, were almost perfect, and elicited warm approval.

The Rev. G. H. Engleheart staged a charming and elegant group of hybrids and seedlings, named and unnamed, of which there were no less than sixteen of the *Poeticus* section. So good were the majority that it must have been a somewhat difficult task to adjudicate on them. Homer was elected from its compeers to be invested with the second prize, and a silver medal offered for any variety not in commerce. The first prize and a silver-gilt medal was awarded to Mr. J. Mallender, gardener at Hodsock Priory, Worksop, Notts, for three blooms of his magnificent seedling, *Hodsock's Pride*, a bicolored *Ajax*, for which the same grower was awarded a silver medal here two years ago. On the recent occasion it was the only seedling of its class present, excepting a fine one exhibited by Mr. Engleheart, and named *Sunflower*. The third prize was awarded to *Lilian*, a charming result of white *Ajax* × *Poeticus*, with a cream coloured perianth and lemon yellow trumpet. A special silver medal was deservedly awarded to Mr. Engleheart for his interesting group of seedlings.

There was a numerous array in the representative collection of *Daffodils* in the competitive and non-competitive classes, and Messrs. Barr and Son's silver cup was worthily won by Messrs. Pearson & Son, Chilwell, Notts, the flowers being remarkable for freshness and elegant arrangement. The second prize, a silver-gilt medal offered by the Society, was secured by the Rev. Jacob Josephs, Whitechurch, Salop, for a remarkably good and fresh-looking collection, whilst the third prize (the Society's silver medal) was claimed by Miss Margaret B. Crawford, Ardlamont, for a highly creditable exhibit, in which we noted an example of the beautiful *Weardale Perfection*. As the foregoing collection contained most of the leading varieties of *Narcissi*, it would be superfluous to particularise them.

Amongst the non-competitive exhibitors, Messrs. Barr & Son, as usual, produced a meritorious representative collection, for which a silver medal was awarded. *Weardale Perfection*, *Incomparabilis Beauty*, *Duchess of Westminster*, *King of the Netherlands*, *James Walker*, *Shakespeare*, *Barri conspicuus*, *Madame Plomp*, Mrs. Pope, *Samson*, *Queen of Spain*, *Frauk Miles*, Mrs. Langtry, J. B.M. Camm, *Sir Stafford Northcote* and *Emperor* were most noteworthy.

A silver medal was awarded to Messrs. J. Veitch & Sons for a large, attractive, and fresh collection set up in groups of from one to six bunches of a variety, thus producing a fine effect. Their leading varieties were *Emperor*, *Minnie Hume*, *Glory of Leyden*, *maximus*, *bicolor Empress*, *Barri conspicuus*, *Dean Herbert*, Mrs. W. T. Ware, *Burbidgei*, *Rossini*, *bicolor grandis*, J. B. M. Camm, *Golden Plover*, *Figaro*, *Shirley Hibberd*, *Barri Flora Wilson*, and *Glory of Leyden*. Mr. T. S. Ware, *Hale Farm Nurseries*, *Tottenham*, was also awarded a silver medal for a beautiful group of the leading varieties, amongst which were *Sir Watkin*, *Horsefieldi*, *Princess Mary of Cambridge*, *Emperor*, *Leedsii*, and *Nelsoni conspicuus*.

Mr. Robert Sydenham was represented by a very fine collection of *Daffodils* and a most attractive and interesting group of hybrid *Streptocarpus*. A silver medal was worthily adjudged the two collections indicated. Mr. Sydenham had also an attractive display of "rustic table adornments" elegantly draped with *Asparagus plumosus*, *Fern fronds*, and *Carnation Uriah Pike*. Messrs. Barr & Son brought a collection of *Tulips*, and which seemed to pleasingly diversify the colour massing of the *Daffodils* in the show, as also did an assortment of *Alpine* and other similar flowers contributed by the same firm.

The competition classes of *Daffodils* were numerous represented, and made an effective display, arranged as they were along one side of the conservatory, and backed up with a dazzling array of the *Botanic Gardens Indian Azaleas*, which, instead of detracting from the colouration and effect of the *Daffodils*, served to enhance it. In the large *Trumpet* section of twelve single varieties, five blooms of each, Messrs. Pope & Son, *King's Norton Nurseries*, easily secured the premier award. The same firm also brought, not for competition, examples of the new

Lulworth. The second prize was worthily awarded to the Rev. J. Josephs. For six varieties in the same section the first prize fell to the Rev. G. P. Haydon of *Doncaster*, his *Monarch* and *Madame de Graaff* being especially fine. The second prize was secured by Miss Margaret Crawford.

In the class for twelve varieties of the *Medii-coronati* section Messrs. Pope again held their own, and the Rev. J. Josephs with meritorious blooms, while for six distinct varieties the Rev. L. P. Haydon and Miss M. Crawford received the first and second prizes in their order named. The Rev. J. Josephs was the only exhibitor for twelve varieties of *Parvi-coronati Daffodils*, and was worthily awarded the first prize. For six varieties the first prize went to the same exhibitor, and the second prize to Messrs. Pope. For four varieties of double *Daffodils* Messrs. Pope and the Rev. J. Josephs were respectively first and second prizewinners.

Mr. R. Sydenham's offer of prizes for *Daffodils* in pots, to include six of single *Daffodils* and three of the *Polyanthus* section, were not competed for, but for five pots Mr. E. M. Sharp, *Edghaston*, secured the first prize, and Mrs. Cutler, *Edghaston*, the second prize for very good examples. For six pots of the "*Polyanthus*" section, in not less than three varieties, Mrs. Cutler was the only exhibitor, and was accorded the first prize.

Messrs. Pope & Son exhibited a magnificent and elegant "shower" *Narcissus* bouquet, for which they received the first prize; the second falling to Mr. S. Gibbs, *Harborne*; and the third to Mr. Cryer. Of dinner table decorations there were only two exhibits, open to lady members of the Society, and Miss E. C. Swinden, *Edghaston*, was awarded the premier prize for an elegant arrangement of *Daffodils* and sprays of *Smilax* and *Asparagus* in variety. The second position fell to Miss L. Ashby Bolton, *Edghaston*, for a bold, but rather heavy design.

Professor Hillhouse, M.A., F.L.S. (the Honorary Secretary of the *Botanical Gardens*), was awarded a special cultural certificate for a well-bloomed pot of *Narcissus Emperor*, the produce of home-grown bulbs. Special awards of merit were given to Mons. De Graaff and Mr. Mallender for small collections of some of the newer and rarer varieties of *Daffodils*, also to the last named exhibitor for a clump of *Primula intermedia*, an acquisition too little known. Messrs. Pope and Sons were commended for examples of the golden variegated *Hoteia* (*Spiraea*) *japonica variegata*, and a similar award was awarded to the Rev. S. Eugène Bourne for fine examples of *Narcissus Queen of Spain* and *Madame De Graaff*. Mention must also be made to the effect that Messrs. I. de Groote & Sons' No. 20 seedling *Daffodil*, which was requested to be sent again to be examined and named, also two seedlings sent by Mr. C. Wolley Dod, *Malpas*, *Cheshire*, were subjected to the same rule.

In conclusion, we may add that Mr. Latham, the courteous Curator of the *Gardens*, afforded the visitors to the show an additional attraction in the way of a fine show of *Orchids* and *greenhouse flowers* in their respective quarters, including also the *alpine rockery gardens* and the recently improved and altered old *hardy fernery*, cut out of the natural red sandstone formation, which reflects much credit upon Mr. Latham, and his able and ingenious, many years established, *hardy herbaceous plant foreman*, Mr. Ahhot.

SOUTHERN PRIMULA AND AURICULA SHOW.—APRIL 21ST.

TAKEN as a whole the annual exhibition of the *Auricula* and *Primula* Society was a success, as the quality throughout was fine, while in the majority of the classes there was keen competition, speaking highly for the interest that is taken by enthusiasts in these charming spring flowers. Below is a list of the principal prizewinners in the various classes.

In the chief class for twelve dissimilar *Auriculas*, the Rev. F. D. Horner, *Kirkhy Lonsdale*, gained the highest honours with *Lustre*, *Heatherbell*, *Dolphin*, *Bull's Eye*, Rev. Cecil Dalton, *Midnight*, *Kingfisher*, *Melarie*, *Shirley Hibberd*, *Favourite*, *Orient*, and *Iolanthe*. Mr. A. J. Sanders, gardener to *Viscountess Chewton*, *Cobham*, was second, showing *Sapphire*, *Black Bess*, and Mrs. Dodwell, very fine. Mr. James Douglas, gardener to Mrs. Whitbourn, *Great Gearies*, was third. Mr. W. F. Meakin, *Driffild*, fourth; P. T. Worsley, Esq., *Clifton*, fifth; and Mr. R. Patterson, *Sunderland*, sixth.

For six *Auriculas* Mr. T. E. Henwood, *Reading*, was a good first, showing superb blooms of Mrs. Chas. Phillips, *George Lightbody*, *Acme*, *George Rudd*, *Dinham*, and Mrs. Henwood. Rev. F. D. Horner showed superb blooms of *Favourite* and *Titania* in his exhibit, which took second prize; Mr. A. J. Sanders being third, T. J. Bennett-Poë, Esq., fourth, P. J. Worsley, Esq., fifth, and Mr. Meakin sixth. Mr. Chas. Phillips was first with four *Auriculas*, showing *Geo. Rudd*, Mrs. Chas. Phillips, *D. Kidd*, and Rev. F. D. Horner. Mr. J. Sargent, *Cobham*, was second; Mr. Badcock, *Reading*, third; and Rev. L. Flood, *Marrow*, fourth.

Mr. W. Badcock, *Reading*, was first with two *Auriculas*, showing Rev. F. D. Horner and R. Headley; Mr. J. Sargeant second, with *Geo. Lightbody* and Rev. F. D. Horner; Mr. A. Fisk, *Broxbourne*, third; A. Spurling, Esq., *Blackheath*, fourth; Mr. Chas. Phillips fifth, and Mr. A. S. Hampton, *Reading*, sixth. For a single specimen of green-edged *Auricula* Mr. A. J. Saunders was first with Rev. F. D. Horner, Mr. J. Sargent second, Rev. F. D. Horner third, Mr. Hennell fourth, all the exhibitors showing the same variety. Grey-edged *Auriculas* were only poorly represented. Mr. A. J. Saunders was first with *George Lightbody*, Mr. Hennell second, Mr. Sargent third with the same variety; Mr. P. J. Worsley fourth with Dr. Horner.

In the white edged section Mr. A. J. Saunders was first with *Acme*,

Rev. F. D. Horner second with Beamblossom, Mr. Meakin third with Acme, Mr. Patterson fourth, and Mr. J. T. Bennett-Poë fifth, both with same variety; Mr. Douglas being sixth with Venus. For a single self-coloured specimen Mr. Patterson was first with Heroine, Mr. Worsley second and third, Mr. A. J. Saunders fourth, and Mr. Hennell fifth, the last four exhibitors all showing Mrs. A. Potts.

For fifty Auriculas of not less than twenty varieties, the Guildford Hardy Plant Nursery claimed the highest honours with an exhibit in many ways superb. Amongst others noticed were fine flowers of Acme, Dr. Horner, Black Bess, Mrs. A. Potts, Confidence, Lancashire Hero, Buttercup, Beauty, Negro, Ringleader, Glow-worm, and others. Mr. J. Douglas was a good second, his exhibit containing fine flowers of Buttercup, Ajax, Fanny Glass, Geo. Rudd, Dr. Kidd, Venus, Black Bess, Elaine, Dr. Hardy, and others. The third prize went to Mr. A. J. Sanders, who also showed superior flowers.

Mr. J. Douglas was an undoubted first with twelve Alpine Auriculas, showing fine examples of Dean Hole, Ariel, Ganymede, Admiral, Captain, Orelia, Echo, Edith Lodge, Alexander, Mrs. P. Campbell, Trilby, and Iza. Mr. A. J. Sanders was a good second, showing amongst others fine examples of Mercury, Countess, Nellie Hibberd, Maggie Sanders, and John Gilbert. Mr. Charles Phillips followed with the third, and Mr. R. Patterson fourth.

Mr. Chas. Phillips took the highest award for six Alpines with Mrs. Martin Smith, Pluto, and several prettily marked seedlings. Mr. Jas. Douglas was second, his flowers of Florence, Firefly, and Bella Ainsley being very good. Mr. A. J. Sanders third; Mr. J. T. Bennett-Poë fourth; and Mr. J. J. Keen, Southampton, fifth. The last named exhibitor was first with four Alpines, showing Thelma, Cordelia, and two seedlings. Mr. W. S. Walker was second; Mr. A. Fisk third; Rev. L. Flood fourth; and Mr. J. F. Kew, Southend-on-Sea, fifth.

Mr. Patterson was first with a single specimen of gold-centred Alpine Auricula, showing Gertrude Jane. Mr. A. Fisk was first with a cream-centred Alpine, staging Mrs. H. Turner, Mr. T. Gill second with Victor, Mr. J. F. Kew third with Theseus, and Mr. Patterson fourth with Alpine Countess.

The Guildford Hardy Plant Nursery was to the front with Fancy Auriculas, showing good flowers of Twilight, Mrs. H. Selfe-Leonard, Bronze, Belle, Rosetta, Khartoum, Innocence, Old Gold, and several pretty seedlings; the second prize in this class went to Mr. Douglas, and the third to Mr. R. Dean, Ealing.

For twelve mixed Fancy Polyanthus Mr. James Douglas was a good first and Mr. A. J. Sanders second; Mr. Douglas was also first with twelve single Polyanthus, and Mr. A. J. Sanders second. In the class for six Primroses Mr. Douglas was again first and Mr. R. Dean second, Mr. Douglas also taking the highest award with twelve hardy Primulas, the exhibit containing a fine pan of *P. verticillata*.

Messrs. Paul & Son, Cheshunt, took the premier award for six hardy Primulas. Mr. Douglas was first with a group of Primulas and Auriculas, his exhibit showing some taste in arrangement, the second prize went to the Guildford Hardy Plant Nursery; Mr. Douglas was also first for a seedling Auricula, showing Vesta, white edged; the Rev. F. D. Horner being second with Snowflake.

Mr. Chas. Phillips was first for Alpines with gold centres and also for blooms with cream centre, Mr. Douglas being second in the former instance, and Mr. Chas. Phillips in the latter. The prize offered for the premier Auricula in the exhibition was awarded to Mr. T. E. Henwood for a plant of Mrs. Henwood. Mr. J. T. Bennett-Poë was first with a basket of Primrose and Polyanthus plants, Mr. Jas. Douglas obtaining the second prize.



HARDY FRUIT GARDEN.

Disbudding Wall Trees.—*Apricots*—It is essential that trees, whether old or young, have regular attention given in removing superfluous growths so as not to overburden them with shoots that will be of no practical use. Apricots, when well managed, bear freely on spur growths as well as young well-ripened annual wood. It is seldom necessary to confine trees solely to either method, a combination of both being perhaps the most effective. Apricots produce a number of natural spurs which should be encouraged and retained, if suitably placed, rather than artificial spurs.

The young annual shoots, having been laid in at proper distances, will require a number of the young growths removing at intervals, retaining one at the base and one at the apex. The latter is required to draw sap to the fruit, and when three good leaves have been developed it may be pinched at that point, and the further growth resulting at one leaf. The growth at the base of the annual shoot is retained to provide a successional to those cut out after fruiting. Where, however, a shoot can remain permanently disbudding need not be so freely carried out, a selection of the foreright shoots on these being pinched at the second pair of leaves to form spurs.

Apricot maggots are frequently troublesome at this period. They are

found curled up in the young leaves. The only remedy is crushing, as insecticides cannot reach them.

Peaches and Nectarines.—The main difference in the treatment of these from that accorded to Apricots lies in the fact that a larger proportion of young shoots are annually reserved, fewer natural spurs being produced, or those of artificial origination encouraged. In order to disbud effectively this point must be understood, so that the superfluous shoots may only be removed.

In commencing to disbud begin where the growths are most vigorous, which usually occurs in the upper parts. Rub off the ill-placed, consisting of those facing the wall and pointing downwards. Afterwards rub off the foreright shoots, reserving the best basal growths on the upper sides pointing in the proper direction for training. All this must be done gradually, which will avoid checks. The leading growths of fruit-bearing parts may be stopped at the third leaf. Strong sappy growths should be rubbed off early unless such are wanted for furnishing vacant places. There is a difference, however, in these strong growths, some being more gross than others, owing to the rapid development of their cell formation. Those that are strong yet of slower growth are better for furnishing new branches, and if shoots of this character can be secured they ought to be encouraged rather than those of a grosser character. The latter often start from dormant buds, and may almost invariably be dispensed with.

Plums and Cherries.—When the supply of fruit is relied on chiefly by spur growths established on permanent branches disbudding is effected mainly as a means of reducing crowded growths, or rather what would be crowded if allowed to remain, and removing others not well placed. On the whole Plums and sweet Cherries may be treated similarly to Apricots, disbudding only the shoots behind and below the branches. Reserve a fair proportion on the upper sides if there is likely to be sufficient room to train them in. Where there is not space to admit more furnish the branch with spurs by leaving the foreright shoots, shortening them at the third or fourth leaf, according as they are weak or strong.

Young Trees.—Young trees in the course of being trained into shape require careful attention to disbudding, so as to secure well-placed growths for forming the main as well as subsidiary branches. This, of course, must be the first object, afterwards laying in growths between, training at regular distances and in a proper direction. If possible secure all from the upper sides, removing those below, opposite the wall, and to a large extent those on the front. Carry out the removals gradually until the superfluous growths have been discarded. The foreright shoots, or those growing at right angles from the main branches, are not well placed for training in, but they are eligible for spurs, and may be shortened at the second pair of leaves.

Apples and Pears.—Old established trees on walls are considerably benefited by a little judicious disbudding, to relieve the spurs of a number of crowded shoots. Others develop in unsuitable positions and eventually require removing. A gradual system of disbudding or the clean removal with a sharp knife of all weakly, ill-placed, and crowded parts is essential. Material benefit will accrue to every group of spurs thus exposed to the light, and the general fruitfulness of the trees promoted. The balance of growth in young trees needs to be kept as true as possible, by affording the shoots or parts of shoots retained full exposure to light and air, in order that the leaves may perform their functions properly.

Outdoor Vines.—As soon as the buds have pushed sufficiently to see whether the growths will be fruitful or not, those that are furthest away from the branch may be rubbed off—that is, if more than one bud was left when pruning. In some cases, however, it is desirable to retain two growths, one to bear fruit this season and the other as a successional. This should emanate from a lower bud. By this means the spurs are kept close at home, because the successional shoot must be pruned to one or two buds next season. The above refers to spur-pruned branches. Vines on walls, however, may be frequently treated so as to produce canes annually. Therefore, when this method is adopted the buds must be selected early, and in suitable positions for extension, rubbing off others, except those required for the current year's fruiting.

FRUIT FORCING.

Vines.—*Early Forced Vines.*—The Vines with Grapes colouring must be afforded a due but not excessive supply of water, lightly mulching the inside border afterwards. This refers to the earliest Vines, which, as a rule, do not require nearly so much water as later ones. Where Grapes are fully ripe a reduction in temperature is advisable, yet moderate moisture and heat must be maintained for the benefit of the foliage. The moisture will not do the Grapes any harm provided the air is changed by free ventilation. A night temperature of 60° is suitable.

Succession Houses.—Attend to stopping and tying the shoots. Where the space is restricted stop them two joints beyond the fruit, and as foliage is necessary leave the laterals both above and below the bunch, at least three from the two lowest eyes and those level with or above the bunch. Pinch these at the first leaf, especially the basal ones, also above unless there is space for extending the laterals, when they may be allowed to make two or three leaves. After the area is furnished keep the growths closely pinched to one joint as made. The great evil is overcrowding, which deprives the foliage of the essential light and air, and restricting the growths is intended to prevent that.

Tying.—Tie the shoots into the places where they are to remain during the summer, this being an operation which demands careful attention. It is a common practice to commence tying down the shoots as soon as they are long enough to bend. This is not advisable except

as a precaution against injury from frost, as the shoots at this stage are so tender that the slightest twist the wrong way breaks them. It is a better plan to defer tying down the shoots until they are less sappy, which may be when the fruit is forming, but a better plan still is to so dispose the rods that the shoots, instead of having to be brought down to a nearly horizontal position, will have an incline upward, yet sufficiently to allow light to reach the basal leaves.

Vines in Flower.—Afford Muscats a free circulation of rather dry air, and a temperature of 80° to 85° or 90° by day, falling to 70° or 65° at night, raising the points of the bunches to the light, and liberating the pollen at midday by gently rapping the footstalks of the bunches. If there is a deficiency of pollen take it from those that afford it plentifully, and apply it to the shy setting varieties with a camel's-hair brush.

Thinning.—Free-setting varieties may be thinned as soon as they are out of bloom, such as Black Hamburgh; some, like Gros Colman, Gros Guillaume, and Trebbiano may be thinned whilst they are in flower; but Muscat of Alexandria, Lady Downe's, and Mrs. Pince must not be done until the properly fertilised berries can be determined by their taking the lead in swelling. Follow up the thinning early and late, and on dull days. Remove surplus bunches, overcropping being alike fatal to well-swelled berries as to colour, and to next year's crop.

Feeding.—Feed swelling crops liberally, either by surface dressings or liquid manure, and maintain a moist genial condition of the atmosphere. It is well to use sweetened horse droppings, and spread them over the whole surface in order to afford the Vines the benefit of the ammonia-charged atmosphere, adding a few freshly sweetened from time to time; but care must be taken not to overdo it. Where the Vines need extra support a liberal dressing of artificially compounded manure may be used with great benefit, carefully following the instructions of the vendors.

Late Houses.—There are, as usual, complaints of bad breaks, which mainly arise from imperfect ripening of the wood, and the production of loose bunches may be attributed to the same cause. Various expedients are resorted to for correcting the latter evil, the best being to stop the shoots three or four joints beyond the fruit, tying the growths to the wires. Choose the latter part of a fine day for this operation, when the growths are limp, after keeping the house rather drier and warmer than usual. Gros Colman and other late free-setting varieties should now be forcing the fruit; they will then have all the summer before them. These Grapes require a longer time to grow and perfect than other varieties. Muscats and other shy setting varieties should be carefully fertilised, operating on fine days. A temperature of 70° at night and 75° by day, without sun, is not too much for Muscats when flowering. It is usual to leave surplus bunches until the flowering is over, which is a mistake, as Vines that do not set a proper number of bunches satisfactorily are not likely to do better when more are left.

Late Hamburghs.—The growths will need attention in disbudding, tying down, and regulating. Do not stop the shoots until they are well developed beyond the fruit to the extent of two joints where the space is limited, and four where there is room, pinching laterals below the bunch to one leaf. Above allow them to extend, so as to insure an even spread of foliage over the space, but no more than can have exposure to light, afterwards keeping closely pinched. Ventilate early and freely, so as to insure short-jointed sturdy wood and thick leathery foliage. Avoid overwatering the border, but keep it moist.

Young Vines.—Those planted last year are starting naturally, and may be assisted with gentle fire heat in cold weather. The canes will have been depressed so as to cause them to break regularly down to the basal buds, when they can be tied in position. Disbud, leaving the best shoots about 18 inches apart on both sides of the canes. Crop very lightly, one or two bunches being the maximum. Any extra Vines planted to fruit early and afterwards to be cut out, may carry a bunch on every side growth.

Newly Planted Vines.—When the Vines take to the fresh soil they will indicate it by growing freely. To secure sturdy growth ventilate early, letting all the growth remain that can have full exposure to light. Supernumeraries intended for next year's fruiting should have the laterals pinched at the first leaf, afterwards allowing them to make a few joints of growth, and pinching the cane at 8 to 9 feet length. Take every possible care of the leaves on the cane, not allowing them to be interfered with in any way by the laterals. Close early, with plenty of atmospheric moisture.

Cherry House.—Directly the stoning is completed the fruit commences colouring and taking its last swelling for ripening. The temperature may now be raised, not exceeding 60° by artificial means in the daytime, and 55° to 60° at night, with a little ventilation, increasing it at 70°. Subject to the leaving of a little air on constantly at the top of the house, close at 70°, but the temperature must not be allowed to exceed that degree in the early part of the day without full ventilation. From the commencement of colouring until the trees are cleared of their fruits, syringing must cease, but a genial moisture should be maintained in the house. Aphides must be kept under by an insecticide, but fumigation or vaporisation only can be had recourse to after the fruit commences ripening. The border and soil of trees in pots must not lack moisture.

TRADE CATALOGUES RECEIVED.

W. E. Martin, 20, Market Place, Hull.—*Abridged List of Seeds and Plants.*

Jas. Veitch & Sons, Royal Exotic Nursery, Chelsea.—*Catalogue of Plants.*

THE BEE-KEEPER.

SEASONABLE NOTES.

It is interesting to bee-keepers to note the difference that exists between the various stocks in an apiary, although so far as it is possible all may be managed alike.

I have lately examined the majority of my stocks, and the difference between them was most marked. Although they were all fed in the autumn with upwards of 20 lbs. of syrup each, the majority of them have now on an average three frames of sealed stores, while others have only sufficient for their present requirements. The latter doubtless continued breeding during the excessively hot weather experienced last autumn, resulting in a much larger consumption of stores.

But the one thing that stood out most prominently before all others was the fact that those stocks that were fed with soft candy two or more months ago, and have been supplied at intervals since, are at the present time the best in my apiary, although there are several colonies that have abundance of sealed stores. In these breeding is not nearly as active as in those stocks that have been judiciously fed as above; which is a proof, in my opinion, that candy is suitable for the purpose. It also shows that the early feeding has excited the queens and caused them to commence laying much earlier than would otherwise have been the case. The open winter has doubtless been in their favour, and this early breeding is an advantage in a forward season like the present.

It is satisfactory to note that all are in good condition, and with few exceptions have ample stores should the weather prove unfavourable, to enable them to fill their hives with young bees that will reap full benefit from the honey flow when it comes. But as it is quite two months before the White Clover is likely to be in bloom there is ample time to work up all stocks into first-class condition by the method advised in previous notes.

The weather is still changeable, and two or three days lately have been bitterly cold. This necessitates close attention to all stocks that require it. Advice in this respect is often sought, but not always, I fear, attended to at the right time, hence losses that need not have happened often occur. One bee-keeper complains of losing three stocks during the past winter, owing to shortness of stores. Neglect in feeding at the right time was the cause of the disaster, the bees being left to take their chance, and in the end died of starvation. Another has lost two stocks from queenlessness; these were in straw skeps, and in each case it was the old stock that succumbed. They swarmed last year and also threw off a cast; but the weather being unfavourable the young queens failed to get fertilised. This was followed by the dwindling away of the bees, and eventually the loss of both stocks.

One would imagine that the majority of people, including all bee-keepers, would be aware of the fact that drones are the male bees, and are very different in appearance to the workers, being much larger, and when flying make a much louder hum. I was surprised and amused lately to be told quite seriously by a bee-keeper of the old school, who has kept bees in straw skeps for many years, "that the drone made the wax and built all the combs in the hive," and I had a difficulty in proving the fallacy of the remark, but eventually succeeded in showing that it was the busy little worker who did all the work, even to collecting food to feed the lazy drone.—AN ENGLISH BEE-KEEPER.

STANDARD FRAME HIVES AND QUEEN EXCLUDERS.

"I HAVE three standard frame hives, and at the present time one of them has ten frames, and the others eight frames each. As soon as I can do so with safety I intend adding two frames of foundation to each of the latter, afterwards placing a crate of sections on each, but being a young beginner at bee-keeping I would like to know if it is necessary to place queen excluder zinc between the frames and sections, or may they be worked without?" —KEWITE.

[A hive holding ten standard frames is a useful size for obtaining a surplus in this country, where the seasons are often very short, owing to dull and unsettled weather. Any hives having a less number should have frames of full sheets of foundation given them as soon as the frames are well covered with bees and supplies from outside sources are coming in somewhat freely. Only one frame of foundation should be given them at once, and this must be placed next to the outer frame of brood. If placed in the centre of brood nest, and dull weather sets in, the brood may get chilled, and much damage be done in that way. The frame of foundation should be fully drawn out, and filled with brood before another is added. But should the weather be dull and showery a small quantity of warm syrup given in the evening

will be of great advantage, as in all probability those stocks that have been wintered on only eight frames will now be getting short of stores. As soon as the hive is crowded with bees and honey is coming in freely a crate of twenty-one sections should be given them.

Should the weather be favourable and honey coming in freely it is an advantage to place a second crate of sections on each hive. This is done when the first crate is about three parts full; the centre combs will then be partly sealed over. The crate of empty sections should be placed underneath the first crate. It is essential to cover them up warm. The bees will at once commence to draw out the foundation in the lower crate, and at the same time filling and sealing over the sections in the top one. This will be the means of keeping all the bees fully employed, and a much greater quantity of honey will be stored than if only one crate of sections had been used.

It is not necessary to place queen excluder zinc between frames and sections, as it is quite unusual for queens to lay eggs in the sections. If they do so it is usually an odd section or two in the centre of crate, and will often happen just before they swarm. I never use excluder zinc under sections, having discarded it several years ago, and have not had a case of brood in them now for several years.

It is necessary to use queen excluder zinc in hives that have been doubled for extracting purposes. I will have something to say on this subject in future notes.—AN ENGLISH BEE-KEEPER.]



* * All correspondence should be directed either to "THE EDITOR" or to "THE PUBLISHER." Letters addressed to Dr. Hogg or members of the staff often remain unopened unavoidably. We request that no one will write privately to any of our correspondents, as doing so subjects them to unjustifiable trouble and expense.

Correspondents should not mix up on the same sheet questions relating to Gardening and those on Bee subjects, and should never send more than two or three questions at once. All articles intended for insertion should be written on one side of the paper only. We cannot reply to questions through the post, and we do not undertake to return rejected communications.

Gardeners' Wages (Dorset).—If it is necessary that you should know the exact legal aspects of the particular case we suspect the information can only be had through a solicitor. The question as you have put it is not capable of a definite answer, as it contains no details whatever as to the terms of engagement.

Forsythias at Kew (W. J. G.).—We have not seen the Forsythias at Kew this spring, but believe one that has been highly effective there, as in other gardens and parks about London, is *F. suspensa*. These free bushes of this, laden with myriads of drooping soft yellow flowers, no shrubs have been more beautiful during the last few weeks, and we think that this Forsythia is worthy of being much more freely planted in shrubbery borders, at least in the South of England.

Cucumber Plants Dying (T. P. R.).—The roots are badly infested with eelworm, a very difficult pest to deal with when once it obtains a footing in Cucumber houses. You cannot do anything better than clear out the plants, lifting them carefully so as to remove as much root as possible, burning the whole without delay. If you use boiling water, giving a thorough supply, there is no need to follow with soluble phenyle or anything else, as not one of the Anguillulidae, not even the dreaded *Heterodera Schachtii*, can survive a drenching of water even 20° below the boiling point. You must, however, thoroughly moisten the soil with the hot water otherwise the disinfection will be only partial.

Vines Unsatisfactory (Perplexed).—From the description you give of the Vines it would be much the best plan to completely renovate the border, lifting the Vines carefully when the leaves give indications of falling, and after removing the old soil and providing thorough drainage, relay them in fresh compost within 1 foot of the surface. There is no plan to equal this, which if carefully done would not materially interfere with the crop of the following season. By taking up young canes, and, when sufficiently advanced, cutting out the old rods or part of them in their favour, much good might follow, especially if the border were given a good dressing of lime. This answers in some cases, but as the Vines produce many aerial roots it is certain the roots have a cold and probably wet medium to work in, in which case they will be of little value to the Vines, hence the only sure method is to proceed as you propose.

Reliable Greenhouse Climber with Fragrant Flowers for Cutting (S. H. W.).—We do not know any reliable climber for such a purpose, especially one to flower early in the year. *Jasminum grandiflorum* is a fine warm greenhouse bush (hardly a climber), but it does not flower until June, though it is sometimes had in April and May by starting the house early, as seems the case with you for the Roses. Perhaps some correspondent may be able to suggest something better, but we have not found anything so satisfactory as the Roses you have, and failure is usually attendant on attempting too much.

Vine Leaves Damaged (Constant Reader).—The leaves are not diseased but injured by some insect or larva, the appearance suggesting that of the Vine moth (*Tortrix angustiorana*) caterpillar, but we did not find a specimen, the creature being very active, and readily escapes when disturbed by letting itself down to the ground by means of a silken thread. The mischief is either done by that or the Vine weevil (*Otiorynchus sulcatus*), which may be taken by cautiously approaching the Vines after dark having a sheet on the ground, as the insect drops when alarmed, feigning death for a short time. For the caterpillar examine the Vines in the daytime.

Artificial Manure for Tomatoes (Mallards).—Nitrate of potash is commonly called saltpetre. It is an excellent but costly fertiliser. Half an ounce per gallon of water is quite strong enough even for such gross feeding plants as the Tomato. It is the best combination of nitrogen (in the form of nitric acid) with potash. It would not be advisable to use it along with nitrate of soda, which supplies the same thing—nitric acid—without the potash; but you may use sulphate of ammonia along with the nitrate of potash, say half an ounce each to 2 gallons of water, and as an alternative employ 1 oz. each of nitrate of soda and sulphate of potash to 3 gallons of water. Potash is necessary for Tomatoes.

Eucharis Infested with Snails (S. B.).—The *Eucharis* bulbs you sent at the beginning of March were seriously infested with the bulb mite. What kind of ammoniacal liquor you may have used and at what strength you do not say, but ordinary gas liquor diluted with six times its bulk of water, though it browns the foliage with which it comes in contact, does not injure the roots of plants unless the soil be dry when the liquid is applied, and it is then improperly used. The snails you say you sent before were not discoverable with a magnifying power of 1040 diameters, but the mites were discernible with a pocket lens. The specimen (snails) you now send are readily seen with the naked eye. It is a species of *Auricula*, one-third inch in length of shell. Against the mites give a good watering with Clibran's mite killer. For the snails you may use the soot, as you say it did good before (though you seem to have let them come again), or lime water, but if neither ammoniacal liquor nor mite killer is of any use against them, neither will soot nor lime, at least, such is our experience. You perhaps allow the soil to get much too dry at times. As you cannot procure a weather diary at home you may inquire of G. J. Symons, Esq., Camden Square, London, with stamped envelope for reply.

Josephine de Malines Pear Tree not Bearing (J. F. W.).—We can only account for the tree not bearing from its growing too freely, and on that account not developing fruiting wood. The tree against the wall will be drier at the roots and have more warmth, a combination of circumstances highly favourable to blossom formation. The variety is a free-bearing one under almost any circumstances, but is freest in the open on the Quince, though it does well on the Pear stock. In order to bring the tree into bearing we should not hesitate to now cut off some of the roots so as to check its vigour, but if these are few, and for the most part straight down, it may be advisable to defer this until the autumn, when the leaves give indications of falling. Even then it may be advisable to only root-prune one side of the tree, as with but few roots it does not answer to cut off too many at one time, especially in the case of trees on the Pear stock, but there is little danger if half the roots are shortened and the others the following season. This procedure is usually effectual, but it requires to be exercised with judgment, and in the case of trees on formal training, and with unrestricted rooting area, is necessary to insure a good fruiting habit; this once assured is seldom departed from, even on the Pear stock, but for such purposes as trelliswork the variety is best on the Quince.

Tomato Plant—Water (S. G. R.).—The plant is in robust health, perfectly free from any disease at the roots or on the foliage so far as we can discover, but it is hardly so sturdy in growth or stout in foliage as desirable. This may arise from the soil, which is of a dark vegetable or warpy nature, being deficient in mineral matter, especially lime and potash salts, particularly the former. The best possible dressing for the soil would be basic cinder phosphate. It contains 40 to 50 per cent. of free lime, and this would act beneficially on the organic matter, liberating ammonia, which, however, would not be lost as it would combine with the iron of the basic slag phosphate, forming a double sulphate of ammonia and iron useful to plants. About 7 lbs. per rod would be a fair dressing, pointing it into the soil. It ought to have been applied sooner. You may also use sulphate of potash; but a moderate amount will suffice, say an ounce per square yard as a maximum and half an ounce as a minimum. We do not know what more you can do, unless it be to dust the plants occasionally with fungicide powder as a preventive of disease. Those advertised are efficient. The analysis of the water shows a rather high per-centage of chloride of soda, which would be neutralised by adding some sulphate of lime, say three grains per gallon; with a further addition of two grains per gallon of sulphate of magnesia, and three grains per gallon of iron sulphate, the water would be as good as it need be minerally for Tomatoes.

Vine Leaves Warded (D. M.).—The Vine leaves are slightly crippled, or what is termed warded, having small wart-like excrescences on the under side of the leaves, which are usually caused by cold air coming into contact with the foliage; but beyond the appearance is not materially detrimental to the Vines. The only preventive is to admit air earlier, and so that cold air does not come into immediate contact with the Vine foliage. It is a very common occurrence, and often attributed to mites; but there is none in this case, and very seldom in other cases that have come before us.

Chenopodium Bonus-Henricus (Youngster).—Plants of this Chenopodium can be increased either by dividing the roots or from seeds. The ground should be well trenched and manured before planting. The rows are best 15 inches apart, and the same distance from plant to plant. The plants spread quickly if liberally treated, and will soon fill the space allotted to them. It is advisable not to cut too severely in the spring until the plants are well established—say the third year. After the spring supply has been cut the plants should be allowed to grow the same as Asparagus. If the seed-bearing stems are cut off towards the end of July the plants will yield a second crop of young shoots in September; but it is best not to do so, as vegetables are plentiful at that season of the year, and it weakens the plants for the spring supply. The roots can be lifted and forced as in forcing Asparagus. Strong heat should be avoided, as a moderate temperature soon induces growth.

The Date Plum (Provincial).—Diospyros Lotus is the European Lote or Date Plum, and grows wild in countries bordering the Mediterranean. It produces fruit of the size of a Cherry, of a yellow colour and a sweet astringent taste, and it has been recommended as a cure for diarrhoea. D. decandra, a native of Cochin China, bears a large berry, of a yellow colour when ripe, with an austere and somewhat sweet taste and disagreeable smell; but it is eaten and sold in the markets in the northern provinces of Cochin China. The wood, when of sufficient age, is of a fine, compact, regular grain, heavy, very white, veined with black, and sometimes black at the heart, and is highly esteemed for cabinet-work. The fruit of D. psidioides, a native of Peru, is an inch in diameter, with an ungrateful smell and an insipid taste. D. Kaki, a native of Japan, produces a fruit like a yellow Plum, which the Japanese eat to such an extent as sometimes to cause an attack of diarrhoea. It is sometimes imported to this country from China as a dried sweetmeat. It is preserved in the same manner as the Fig.

Names of Fruits.—Notice.—We have pleasure in naming good typical fruits (when the names are discoverable) for the convenience of regular subscribers, who are the growers of such fruit, and not collectors of specimens from non-subscribers. This latter procedure is wholly irregular, and we trust that none of our readers will allow themselves to be made the mediums in infringing our rules. Special attention is directed to the following decision, the object of which is to discourage the growth of inferior and promote the culture of superior varieties. In consequence of the large number of worthless Apples and Pears sent to this office to be named, it has been decided to name only specimens and varieties of approved merit, and to reject the inferior, which are not worth sending or growing. The names and addresses of senders of fruit or flowers to be named must in all cases be enclosed with the specimens, whether letters referring to the fruit are sent by post or not. The names are not necessarily required for publication, initials sufficing for that. Only six specimens can be named at once, and any beyond that number cannot be preserved. They should be sent on the first indication of change towards ripening. Dessert Pears cannot be named in a hard green state. (H. J. P.).—1, unknown; 2, Court Pendu Plat. (Q. R.).—The Apple is probably of local origin. (F. E. C.).—Alfriston.

Names of Plants.—We only undertake to name species of plants, not varieties that have originated from seeds and termed florists' flowers. Flowering specimens are necessary of flowering plants, and Fern fronds should bear spores. Specimens should arrive in a fresh state in firm boxes. Slightly damp moss, soft green grass, or leaves form the best packing, dry wool the worst. Not more than six specimens can be named at once, and the numbers should be visible without untying the ligatures, it being often difficult to separate them when the paper is damp. (J. A. H.).—Possibly Phalænopsis Wallichii. (Constant Reader).—1, 5, and 6, specimens totally insufficient; 2, Berberis dulcis; 3, Lithospermum prostratum; 4, Omphalodes verna.

COVENT GARDEN MARKET.—APRIL 22ND.

Tasmanians arriving better.

VEGETABLES.

	s. d.	s. d.		s. d.	s. d.
Asparagus, per 100	4 0	to 5 0	Mustard and Cress, punnet	0 2	to 0 4
Beans, per lb.	0 6	1 3	Onions, bushel	2 6	4 0
Beet, Red, dozen	1 0	0 0	Parsley, dozen bunches ..	2 0	3 0
Carrots, bunch	0 3	0 4	Parsnips, dozen	1 0	0 0
Cauliflowers, dozen	2 0	3 0	Potatoes, per cwt.	2 0	4 0
Celery, bundle	1 0	0 0	Salsafy, bundle	1 0	1 6
Coleworts, dozen bunches	2 0	4 0	Seakale, per basket	0 9	1 3
Cucumbers, dozen	2 0	4 0	Scorzonera, bundle	1 6	0 0
Endive, dozen	1 3	1 6	Shallots, per lb.	0 3	0 0
Herbs, bunch	0 3	0 0	Spinach, pad	0 0	4 6
Leeks, bunch	0 2	0 0	Sprouts, half siv.	1 3	0 0
Lettuce, dozen	1 3	0 0	Tomatoes, per lb.	0 6	0 0
Mushrooms, per lb.	0 6	0 8	Turnips, bunch	0 3	0 6

FRUIT.

	s. d.	s. d.		s. d.	s. d.
Apples, per bushel	2 0	to 4 6	Peaches, Cape, per case ..	0 0	to 0 0
" Nova Scotia, barrel	13 0	20 0	Pears	0 0	0 0
Grapes, per lb.	2 6	6 0	St. Michael Pines, each ..	2 0	6 0
Lemons, case	11 0	14 0	Strawberries, per lb. ..	4 0	6 0

PLANTS IN POTS.

	s. d.	s. d.		s. d.	s. d.
Arbor Vitæ (golden) dozen	6 0	to 12 0	Ferns (small) per hundred	4 0	to 6 0
Arum Lilies, per dozen ..	8 0	12 0	Ficus elastica, each	1 0	7 0
Aspidistra, dozen	18 0	36 0	Foliage plants, var. each	1 0	5 0
Aspidistra, specimen plant	5 0	10 6	Genista, per dozen	8 0	12 0
Azalea, per dozen	18 0	36 0	Hyacinths, dozen pots ..	8 0	12 6
Cineraria, dozen pots ..	6 0	9 0	Hydrangea, various, dozen	9 0	24 0
Cyclamen, dozen pots ..	8 0	15 0	Lilium Harrissi, per dozen	18 0	30 0
Dielytra, per dozen	9 0	12 0	Lycopodiums, dozen	3 0	4 0
Dracæna, various, dozen ..	12 0	30 0	Marguerite Daisy, dozen ..	6 0	9 0
Dracæna viridis, dozen ..	9 0	18 0	Mignonette, dozen pots ..	8 0	9 0
Ericas, various, per dozen	9 0	24 0	Myrtles, dozen	6 0	9 0
Buonymus, var., dozen ..	6 0	18 0	Palms, in var., each	1 0	15 0
Evergreens, in var., dozen	6 0	24 0	" (specimens)	21 0	93 0
Ferns in variety, dozen ..	4 0	18 0	Spiræas, doz.	6 0	9 0

AVERAGE WHOLESALE PRICES.—OUT FLOWERS.—Orchid Blooms in variety.

	s. d.	s. d.		s. d.	s. d.
Anemone (French), dozen bunches	2 0	to 4 0	Narcissi, var., doz. bunches	0 9	to 2 0
Arum Lilies, 12 blooms ..	2 0	4 0	Orchids, various, doz. blms.	1 6	12 0
Asparagus Fern, per bunch	2 0	4 0	Pelargoniums, 12 bunches	6 0	9 0
Azalea, dozen sprays	0 4	0 9	Primroses, dozen bunches	0 6	0 9
Bouvardias, bunch	0 6	1 0	Primula (double), dozen sprays	0 6	1 0
Camellias, dozen blooms ..	0 9	1 6	Roses (indoor), dozen ..	1 0	2 0
Carnations, 12 blooms ..	1 0	3 0	" Tea, white, dozen ..	1 6	2 6
Cyclamen, dozen blooms ..	0 3	0 6	" Yellow, dozen (Niels)	3 0	6 0
Daffodils, single, doz. bun.	1 6	6 0	" Red, dozen blooms ..	2 0	6 0
" double, doz. bun. ..	1 6	2 0	" Safrano (English), dozen	1 6	3 0
Eucharis, dozen	3 0	4 0	" Pink, per dozen	3 0	8 0
Gardenias, dozen	2 0	3 0	Smilax, per bunch	4 0	6 0
Geranium, scarlet, doz. bunches	4 0	6 0	Spiræa, dozen bunches ..	3 0	5 0
Hyacinths, dozen spikes ..	2 0	4 0	Stephanotis, dozen sprays	6 0	9 0
Hyacinth, Dutch, various, per box	2 0	5 0	Tuberose, 12 blooms ..	0 6	1 0
Lilac (French) per bunch	3 0	4 0	Tulips, dozen blooms ..	0 4	0 6
Lilium longiflorum, twelve blooms	3 0	5 0	Violets Parme (French), per bunch	3 0	4 0
Lily of the Valley, 12 sprays	0 6	1 0	" Ozar (French), per bunch	2 0	3 0
Maidenhair Fern, doz. behs.	4 0	8 0	" Victoria (French), 12 bunches	1 0	1 6
Marguerites, 12 bunches ..	2 6	4 0	" English, 12 bunches	0 9	1 0
Myosotis or Forget-me-not, dozen bunches	3 0	6 0	Wallflowers, dozen bunches	2 0	4 0



LUCERNE.

IF cattle are to be the machinery for turning food of diverse sorts into beef, mutton, milk, cheese, and butter, it is well to see that the mechanism of the machine is not encumbered or clogged by useless or poor fuel, which must naturally retard the progress of the work, and possibly injure or even destroy delicate and valuable parts difficult of replacement.

If we raise the best possible stock it is poor economy to deny them the best possible food, the greater expense in the beginning being so often the greater saving in the end. Nothing is worth doing at all unless it is worth doing well, and these are not the days to be satisfied with a good crop, it must be the best crop attainable. There must be no waste of time allowed for the production of the crop; Nature must not be handicapped by bad tillage and unsuitable seed. Time is money, now more than ever. Of course, in growing feeding stuffs for our flocks and herds the first consideration is the geographical situation, for within the bounds of the United Kingdom temperature varies as much as soil. Not only is there the difference of North and South, but the difference of East and West, and these must be seriously noted. Because a certain plant does well in the home counties, it is by no means certain it will do well even on favourable soils north of the Humber.

That Lucerne (Medicago sativa) is a valuable fodder crop no one doubts, but as to its adaptability for all climes even in Britain a good many doubt. From the tables published by the Board of Agriculture we gather much valuable information as to the steady increase of acreage under Lucerne. From 1885

to 1895, a period of ten years, the increase in acreage has been from 13,754 acres to 23,853 acres, or an increase of 73 per cent. From 1885 to 1889 the Lucerne crop steadily grew; from 1889 to 1892 the figures went down, and since then the rise has been maintained. Essex, Kent, Suffolk, Hertford, Cambridge, and Norfolk come first as growing the greatest quantity, then next on the list are Oxford, Berks, Bucks, Lincoln, Hants, and Sussex. Northumberland, Durham, Cumberland, Westmoreland, Lancashire, Derby, and Stafford only just manage to grow 100 acres among them.

A large dairy farmer of great experience in North Lincolnshire considers that just south of the Humber is the most northerly point where Lucerne can be grown profitably. Of course there may be, and are, sheltered districts in Scotland even where a few acres can be grown advantageously. Lucerne will not grow in a wet soil or a cold wet climate. It does the best on chalk or limestone, though capital crops are obtained on Essex clays and Lincolnshire Fens. Messrs. Sutton speak of one piece in the Fens that had been down twelve years, and was still in grand condition.

There is no doubt but that Art can assist Nature materially. As Lucerne is a crop that stands for some years, it is absolutely necessary to see that the seed bed is clean, clean as a garden, and also that the land is rich in phosphates. It is not a bad plan to sow Lucerne after Turnips that have been eaten on—that is, if the ground be clear in time. Mr. Clare Sewell Reed's plan is to sow in the spring on autumn Wheat. He says, "Horse-hoe the Wheat in March, drill Lucerne with a small drill, harrow and roll it down. If sown with Barley the seed either becomes buried too deeply, or possibly the Barley lodges, and you lose your plant."

There is a reason, and a pretty good one, why this crop is not more extensively cultivated, and the reason may be found in the expense of keeping the land free from weeds during the earlier periods of growth. Mr. Martin Sutton considers the seed is best drilled 6 or 8 inches apart, as it can then be cleaned by hand or horse hoe. If it is sown broadcast, as Mr. Reed prefers, sow it as thick as you can, then harrow it, and you will get rid of small grasses and weeds:

Another authority says that if you sow broadcast the land must be broken up every three or four years to kill rubbish. Another suggests that 3 or 4 lbs. of Trefoil per acre sown with the Lucerne will materially help to keep down weeds during the first year. Yet another, and a man who has been a prize farm judge for the Royal Agricultural Society, prefers to drill his Lucerne 16 inches wide—he certainly gets good clean crops, and the proof of the pudding is in the eating.

Lucerne being a deep rooted plant is able to hold its own during a drought, and will be green and fresh when all other herbage is shrivelled and brown. This characteristic adds immensely to its value, especially in the southern and eastern counties, which are so subject to drought and which have a comparatively small rainfall. Being, too, a great storcer of nitrogen, it leaves the land full of this valuable fertiliser.

As to the quantity of Lucerne per acre, there have been some interesting experiments conducted at the Woburn Experimental Farm in Bedfordshire. The land is light sandy loam, very little lime in it, and a subsoil of nearly pure sand. The plots were 12 feet by 12, and were drilled on May 10th, 1889, with seed at the rate of 15 lbs. per acre. In the first year there were two cuttings, then 1890 to 1893 inclusive four cuttings per year. In the years 1894 and 1895 three cuttings were taken. The first year the green weight was at the rate of 3 tons per acre, in the fifth year at the rate of 24 tons per acre, and in the sixth year at the rate of 22. These plots were hand-hoed. They were also treated with different manures. Sulphate of ammonia proved the least effective dressing, and a mixed manure of bone dust, superphosphate, sulphate of potash, and sulphate of ammonia

proved the best, but the difference in yield between the manured and unmanured plots was very trifling.

If the seed be sown in drills 16 to 20 lbs. per acre will be necessary, if broadcast the quantity must be increased at least 8 lbs. From April to July, certainly not later (earlier if possible), is the time for sowing. The first cutting should be made just before the flowers open. If the Lucerne is intended for hay great care must be taken not to burn it or knock it about too much, as the leaf is brittle and is easily bruised and knocked off. Three cuttings are quite enough to take during one season, and what would be left for the fourth makes capital fold for ewes. Care must be taken to give them plenty of room lest they be tempted to eat out the crown of the plant.

Lucerne is excellent food for all kinds of stock; but being so rich it should be used with discretion; being mown and used as a forage crop for cows, it should be partly withered, as damp green meat is so liable to generate gas. Horses get into wonderfully good bloom and condition, and it comes in most handily being ready at least a fortnight before Rye Grass or Red Clover.

WORK ON THE HOME FARM.

Finer conditions have prevailed during the last week. One or two decided frosts have been recorded, but the damage therefrom has not been great, and on the whole satisfactory progress may be reported on the home farm. Mangold sowing is about to be put in hand, and on sound well-drained land should be completed this month. After trying several varieties we have discarded all but Yellow Globe. Nothing is better for general purposes, and few so good. Some people put the seed through a malt mill before drilling, but we prefer steeping in water for twenty-four hours, as when the husk is broken up by grinding the small seeds are liable to gravitate together, and inequality of plant is the result. If after steeping the seed is too wet for drilling, a few ashes from a twitch heap carefully mixed with it will generally make the operation go smoothly.

Lambing is now quite over, and though there have been a few losses during the closing period, they have not materially affected the excellent record of the season.

Cattle but newly turned out are not having a very happy time of it, and where good shelter has been wanting must have suffered from the cold winds of the early part of the month; but except in cases of actual illness it is best to let them rough it, as bringing them up again will generally entail going through the hardening process once more.

The dry food that would have to be used in the yards will, however, do the cattle more good if given out at grass. The animal heat must be maintained, and if the natural food is not aided by a sufficient daily temperature artificial food must be added to make up the deficiency. Cotton cake being of a binding nature is the best thing to give on grass for any stock over twelve months old, for younger animals give a little hay or clover.

Again has the voice of the Potato buyer been heard in the land, and the rattle of the patent sorter tells that at any rate a market may be found somewhere. Stocks have dwindled rapidly of late, and the Job-like patience of the small minority of holders may have its reward before June. We have forty days' liability to frost yet.

METEOROLOGICAL OBSERVATIONS.

CAMDEN SQUARE, LONDON.

Lat. 51° 32' 40" N.; Long. 0° 8' 0" W.; Altitude 111 feet.

DATE.		9 A.M.				IN THE DAY.				Rain.
1896.	Barometer at 32°, and Sea Level.	Hygrometer.		Direction of Wind.	Temp. of soil at 1 foot.	Shade Tem- perature.		Radiation Temperature		
		Dry.	Wet.			Max.	Min.	In Sun.	On Grass.	
April										
	Inchs.	deg.	deg.		deg.	deg.	deg.	deg.	deg.	Inchs.
Sunday .. 12	29.896	48.0	42.9	N.W.	47.6	54.7	39.2	103.2	33.1	0.082
Monday .. 13	30.123	45.0	38.2	N.W.	46.2	53.2	35.0	102.9	28.9	0.079
Tuesday .. 14	30.049	43.2	41.8	S.W.	45.9	52.7	38.1	89.1	29.1	0.078
Wednesday 15	30.205	46.1	40.9	N.	45.9	54.4	39.4	104.3	37.7	0.019
Thursday .. 16	30.238	46.0	43.7	S.	45.9	51.7	38.8	82.4	29.8	0.068
Friday .. 17	30.136	51.3	46.7	W.	45.4	59.9	39.8	109.7	32.6	—
Saturday .. 18	30.354	53.4	49.2	W.	46.2	59.6	41.6	97.7	33.3	—
	30.143	47.6	43.3		46.2	55.2	38.8	98.5	32.1	0.326

REMARKS.

12th.—Strong gale all day, with much bright sun; occasional spots of rain and heavy rain with hail at 4 P.M.

13th.—Brilliant sunshine generally; cloudy at times.

14th.—Continuous rain from 5 A.M. to 10.30 A.M., dull and gloomy after, and rain again at night.

15th.—Bright sunshine and occasional cloud.

16th.—Dull and gloomy, with frequent rain.

17th.—Brilliant early and generally sunny throughout.

18th.—Frequently overcast, but sunny at times.

Slight grass frosts on three nights, but on the whole a pleasant week of average temperature.—G. J. SYMONS.

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FUCHSIAS.—12 splendid single kinds ..	3 6
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ZONAL PELARGONIUMS.—12 best new double and semi-double kinds, including double H. Jacoby and Raspail Improved ..	6 6
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COTTAGE GARDENING; being an Essay

to which the Royal Horticultural Society awarded Mr. W. EGERTON HUBBARD'S Prize, February 16th, 1870. By E. W. BADGER. Third Edition. Price 3d.; post free, 3d. JOURNAL OF HORTICULTURE Office, 171, Fleet Street, London, E.C.

**Journal of Horticulture.**

THURSDAY, APRIL 30, 1896.

PROVINCIAL SHOWS.

NOTHING, perhaps, indicates more clearly the existence of active interest in the pursuit of gardening in the provinces than the number of horticultural exhibitions that are held every year. Some of these are small, some what may be termed of medium size, while others are very extensive. These terms are, however, relative, because obviously a strictly local show only represents horticultural products raised within a prescribed area, and considering its limited extent the surprise is not that many of the "small" shows are so small but that they are so large. They afford unmistakeable evidence of a great amount of zeal on the part of their patrons and of the cultural knowledge possessed by industrious workers, who acquit themselves so creditably.

Then there are shows which are less local in their character, as they are supported by subscribers and furnished by gardeners and amateurs over a more or less extensive district. Some of these district exhibitions are remarkable for their magnitude as well as the splendid examples of culture that are brought together from time to time; and the shows have, by advertisements and reports, obtained a recognised position in the horticultural world. Again, there are shows of still wider scope, and which by the enterprise of their promoters and the success accruing have won for themselves somewhat of a national character—such as, for example, York and Shrewsbury; while others are following on the same lines. In addition, a season rarely passes when a special effort is not made for a great horticultural display in some populous centre, such as during the present season at Chester. Thus, in various ways, it is perceivable that the horticultural spirit is abroad, and is as active in Britain, we suspect, as anywhere else in Europe, or, indeed, in the world.

The organised endeavour that is made for creating a wider interest in gardening among all classes, and the incentives afforded to develop the greatest amount of skill in the production of flowers, fruit, or vegetables in various districts is altogether gratifying, and nothing but good, viewing the results in the aggregate, can be the eventual outcome. Then the occasion of the

displays of the richest and the best of the earth's products afford centres of delight to thousands of visitors, who enjoy them, and more and more of whom become influenced in the right direction, as sharing in or helping others on in work that impresses them so favourably. This work—horticulture—and its pleasant associations is steadily but surely progressing, and its advancement may be expected to be even more active in the future than it has been in the past in some of its varied forms, as diffusing itself more freely through all sections of the community.

A few months ago we were commissioned to suggest that the Royal Horticultural Society might be able to devise methods for encouraging in a more direct manner than heretofore provincial work of the nature and for the objects indicated. It was not implied that the Society did not regard with the most friendly and sympathetic interest the labours and the success of provincial workers, nor was any other feeling manifested than that whatever might be sent from the provinces to London was dealt with fairly and honourably. At the same time it was felt that London was afar off, that the R.H.S. was little but a name in, and quite out of touch with, the provinces; and it was thought that a more direct relationship might be gradually established between the Central Society and some of the chief provincial organisations; also that good work in horticulture, which, for obvious reasons, could not be seen in London, should be in some way officially recognised by the admittedly chief horticultural society in the kingdom.

We have reason to believe that the main proposition—some departure from its ordinary routine in the direction indicated—was at once favourably entertained by the Council of the R.H.S., and eventually, after considering various methods for giving practical effect to the idea, it was decided to act by direct representation of the Society at one or two provincial shows this season, possibly, as may be fairly assumed, in the way of experiment. It seems that as soon as the willingness of the Council was made known to send deputations comprising representatives of the Board and Committees, but without prescribing any course of action, invitations were received by the Council from York and Chester, and that these invitations were accepted—York in June, Chester in August—and that no others could be entertained this year.

It seems especially appropriate that the first exodus of the R.H.S. should be to the ancient and historic City of York, because, as has been previously notified, it was in the large room of the excellent horticultural house, Harker's Hotel, that the question was first discussed, on the occasion of the last show; and besides, the York exhibition is the first great show of the year at which fruits, as well as plants and flowers, are staged in competition for prizes. From what we learn, the deputation of the Royal Horticultural Society is likely to consist of ten gentlemen, including the President and Secretary, and it is certain they will receive a hospitable reception—indeed, we believe the President and Secretary will be the guests of the Lord Mayor at the Mansion House; while the other visitors will probably go to "Harker's." They are to be the guests of the Society, and entertained at dinner on the evening prior to the show, also onwards till after luncheon in the gala field, on the completion of the judging. On both occasions opportunities, we presume, will be afforded for speeches appropriate to the occasion, as we have not heard that arrangements have been made for a popular meeting, and possibly such a meeting may be impracticable in the limited time at disposal.

The deputation, as guests, have, of course, nothing to do with the arrangements, but will simply fall in line with the programme, whatever it may be. Nor is it expected that they will, in the dispensation of the R.H.S.'s honours, interfere in the least with the York Society's judges, but will make awards in addition to, or independent of, the prizes in the schedule, in the form of medals, awards of merit, or what not, as they deem fit, according to the excellence of the exhibits. Although three gold medals (or value in money) are provided by the York Society for nurserymen's productions, there are often non-competitive exhibits worthy

of approval for which no provision is made in the schedules of large shows.

It has been suggested that there is the possibility of conflict arising between the regular judges and the R.H.S. experts as to their estimates of merit. There is one safeguard against this in the circumstance of the York officials choosing persons to adjudicate who are themselves experts, and as such the deputation would be the more likely to be in consonance with their views, and may be trusted to respect their decisions. As to procedure there need be no conflict, because it would be easy to provide for the award of the prizes in the schedule, before the R.H.S. inspection, for which an hour would probably suffice—prior to which three or four sets of judges would have gone far towards the completion of their duties. Also naturally the judges would have nothing to do with awarding certificates for new plants or products, as if Royal Horticultural Society's certificates are at disposal for these, as we believe is the case, the granting of them would properly devolve on the deputation. Should there be many entries these could be examined during the time the judges are engaged in the classes, and thus the whole work would go on smoothly, as indeed it would, as it seems to us, in any case if the deputation followed the judges for granting extra R.H.S. awards, outside the new plants or products shown for certificates. These are usually sparse at provincial shows, but possibly they may be more numerous under the new conditions, as we take it for granted that novelties will be eligible from all parts of the kingdom or the world. The only chance of a hitch occurring would be in the deputation preceding the judges, the very thing we have not a doubt the former would be naturally careful to avoid; still the first visit of the R.H.S. for the purpose in question will be of necessity experimental, and may lead to a different and better course of action at future shows. It is something to make a beginning.

It is at present rather a "far cry" to Chester, a new centre of horticulture as regards exhibitions, though famous for the great establishment of the Dicksons; yet by what we have heard the Royal Horticultural Society will not receive a less generous reception than at York. We have heard that the President will be the guest of the Duke of Westminster, and that His Grace is expected to attend a meeting to be held in the Town Hall the evening before the show. The experience of York will be valuable as a basis of procedure at the show, in fact both shows will be experimental, and it is not easy to see how a definite course of action can be formulated till another year for the visits of the Royal Horticultural Society to provincial centres in which the products of gardens are extensively and well represented, and where cultivators are worthy of the Society's recognition, instead of dispensing the whole of its honours in London, also at the same time circumscribing its influence for good in the promotion of national horticulture.

THE NEW JUDGING.

ON page 346 "One of the Forty-six" indulges in a humorous critique on "An Old Judge." I should of course have taken no notice of this letter but for a paragraph describing certain classes which are specially difficult to judge, and these are the words, "Or even one of the new mixed classes at Shrewsbury, in which something like an unheard-of condition is attached, that the points must be exposed." The writer may have intended that the "unheard-of condition" simply means a new departure from the ordinary rules of judging. If so I feel complimented that our Society has initiated an entirely new item in horticultural shows; but it may also be taken that the "unheard-of condition" may be an innovation which it would not be desirable to follow. If so, I would say our object is simply educational. I have never been at a show without the decision of the judges being, friendly or otherwise, criticised, and have been often asked why some exhibit was preferred to another, which to the public certainly looked more likely to gain the prize. At our floral fête I have often seen junior (and senior) gardeners round an exhibit arguing most earnestly,

and proving (to their own satisfaction) that the judges must be wrong.

In the two classes in our schedule this year we, following the recommendation of the R.H.S. in its new code, have given a specific value to each section of the exhibit, and by enumerating the number of points each dish of fruit gets—the value of the flowers, points for harmonious blending, and for general effect on the tables obtaining prizes—the separate and total value will be fully shown. By this arrangement it may be seen the value judges place, as for example, on a Pine. This fruit might be awarded seven points in the first prize collection, eight in the second, ten in the third, and six in the fourth, and the public would at once look for the difference, and so with all the other dishes of fruit.

I am fully aware that the plan proposed to be adopted in August will give some considerable trouble to arrange and carry out promptly and satisfactorily; but the last thing a secretary should mind if the success of a show is to be secured is trouble and work, and I venture to hope that the enumeration of the points in these two classes may be so easily arranged, create such interest, and give instruction to those inspecting them that it will in future be not an “unheard of condition” to expose the points, but that the system will be adopted by other societies, and not be confined to one or two classes, but applied to all the important items in the schedule.

I have seen a dinner table prize, which must have been given by the judges for silver and electro fittings; and also a similar prize given for an arrangement which provoked the greatest amount of criticism (chiefly from ladies) I ever remember. When the judges know that each item is publicly and distinctly awarded specific points, there will be no more absurd decisions, such as their private whim and fancy may incline them to make.

I think the day is gone by for horticultural societies to keep on going “as you were” and “marking time.” The more novelties and improvements that can be introduced the better, and I shall be deeply grateful for any suggestion of improvement in our schedule from any horticultural friends. I need scarcely add they would be carefully considered for possible adoption.—H. W. ADNITT, *Shrewsbury*.

[It will be conceded that there is the right ring in this communication, and no doubt the spirit which it displays accounts largely for the remarkable success of the Shrewsbury shows. The first class referred to by Mr. Adnitt is for a “decorative dessert table,” in which the different kinds of fruits that are eligible are enumerated in the schedule. It is further stated, and herein rests the novelty—

The selection of fruit staged to be entirely at the discretion of the exhibitor, but not more than sixteen dishes can be staged.

To be judged by points—Black Grapes, each bunch	Maximum	6
White “ “	“	6
Pine	“	10
Peaches, Apricots, and Nectarines, each dish	“	8
All other fruits ditto	“	6
Beauty of flower and foliage	“	8
Harmonious blending of colours	“	8
General arrangement for effect	“	8

The number of points awarded to each exhibit will be placed on the exhibits obtaining prizes. Possible number of points, 130.

The prizes offered are—First, £15 15s.; second, £12 12s.; third, £8 8s.; fourth, £5 5s. Brisk competition may be anticipated, and much interest in the publication of the points is certain to be manifested. The next class to be judged on similar lines is set forth as follows:—

GARDEN PRODUCE CLASS.

For the best arranged collection of garden produce to occupy a space of feet \times 5 feet, fruits, vegetables, plants, and flowers to be represented; any foliage may be employed for decoration. The collection to include—six dishes of fruit, distinct kinds (Pines excluded), black and white Grapes (two bunches of each) to count as distinct kinds; six dishes of vegetables, distinct kinds; with table plants in pots not exceeding 5 inches in diameter, and cut flowers in any form, the whole of the products to be arranged according to the taste of the exhibitor for meritorious and effective display. First prize, £10 10s.; second prize, £8 8s.; third prize, £6 6s.

To be judged by points—Grapes, each bunch	Maximum	6
All other fruit, each dish	“	8
Vegetables, for each kind	“	7
Plants	“	6
Cut flowers and foliage	“	8
Tasteful arrangement	“	8

The object of this class is to enable cultivators of gardens to show what they consider the best examples of varied products such as are required in high-class gardens. The number of points awarded to each exhibitor will be published on the collections obtaining prizes. Possible number of points, 120.

Although we think the exposure of points awarded for collections of vegetables, also for gardens and allotments, has

been resorted to on the initiative of Mr. A. H. Smee at the Carshalton shows, we do not remember any such classes as those provided at Shrewsbury being judged on the same lines, and the results placed on the exhibits at any great show in the kingdom. The class last quoted ought to be within the means of many gardeners, while it permits scope for great diversity in arrangement. Should the same exhibitor win the first prizes in both those classes, and we see nothing in the conditions to prevent his doing so (if he can), the sum of £26 5s. would not be a bad day's work. We rather suspect that the judges, after completing their records, will soon be lost in the crowd, which is fortunately handy at Shrewsbury.]

CANNAS.

COULD some of the grand old gardeners of the past be brought back to us to-day they would, I doubt not, find much to admire, nay, even to startle, and perhaps something to regret, in modern horticulture; but I trow they would have nothing but praise to bestow on the splendid race of Cannas which now adorn our gardens in all their stately majesty. My earliest impressions of Cannas were that their leaves were noble but their flowers disappointing. This led me to mentally enumerate how many fine-foliaged plants bore only insignificant flowers, till the conclusion was forced on me that Nature was not prone to supply us with plants having both noble leafage and brilliant and conspicuous flowers. The fertile brain and busy hand of man has, however, learned to wrest her secrets from her, for it seems that the scientific hybridist has only to set up a high ideal in regard to any genus of plants, then slowly but surely will the goal be reached, and I cannot help thinking that in the race of Cannas now in commerce we possess plants which, in both foliage and flowers, approach very near to perfection, for the improvement wrought in them during recent years is little short of marvellous.

Many of the newer varieties are in leafage and habit of growth a great advance on older forms, for they not only possess characteristic boldness but an infinite variety of peculiar and beautiful shades of colour as well. Various tints of glaucous green, bronze, and chocolate-crimson serve to produce diversity in the leaves, and their distinctly marked ribs add to their attractiveness. For these good points alone Cannas deserve to rank among the best of fine-foliaged plants. To these desirable qualities, however, we may fortunately add their crowning glory, which takes the form of large spikes of gorgeous flowers. The Gladiolus-flowered type seems to be the one which will become the most popular, as the flowers are large, exquisitely striped or spotted, and the long tapering spike shows up to advantage above the bold leaves.

Cannas are now largely used in the flower garden, especially in places where sub-tropical bedding is practised. Where a series of large beds have to be filled, the whole aspect of the garden is changed by the introduction of these noble leaved and gorgeously flowered exotics. Of course there are many ways of disposing them about a flower garden. In some cases circular beds filled entirely with them are to be commended, but to carry this out it is necessary that the garden should be large, with plenty of open space around. In many private places the conditions are the reverse of this, then it is better to use them as “dot” plants, or as centres for beds in various positions. This enables the planter to secure boldness without too greatly curtailing the space available for dwarf-growing plants. Positions sheltered from rough winds should, if possible, be chosen for them. Under such conditions they not only grow more freely, but both flowers and leaves retain their beauty longer. Large plants in pots or tubs are also well adapted for standing in prominent positions. When used in this way it is easy to find a suitable site for them—viz., one in which they receive a fair amount of sunshine, and are yet sheltered from the full force of the winds. Then if potted in rich soil, and given copious supplies of water, they quickly develop into grand specimens, and their bold leaves and large brightly coloured flowers combine to form objects unsurpassed in attractiveness.

Few plants, with so many good points to commend them, are of such easy culture as Cannas; two essential points to be observed are to start the plants in moderate heat in spring and to pot in rich light soil. A stock of plants may be quickly raised from seeds, which I like to sow early in February. The seeds being extremely hard should, with a view to hasten germination, be soaked in warm water for twenty-four hours previous to sowing. It is a good plan to place them singly in 3-inch pots, so that the young plants do not receive a check in transplanting during the early stages.

Light loam, leaf soil, and sand in equal proportions is a good compost to sow the seeds in. The best position to place the pots in till the seed germinates is a close frame in a propagating house where there is a good bottom heat at command and cocoa-nut fibre

refuse to plunge them in. Failing this, a useful propagating case is quickly constructed by placing a little plunging material in a deep box, setting the pots in it, covering with squares of glass, and standing the miniature frame on the hot-water pipes of a Cucumber house or other warm structure. When well rooted the plants should be potted as required, using a compost of loam, leaf soil, and well-decayed manure in equal parts, with a little sharp sand and charcoal added. If kept in a temperature ranging from 60° to 70°, by the middle of May strong plants in 6-inch pots should be the result. These must then be gradually hardened ready for planting out the first week in June. Of course, it is now too late to sow seeds to supply plants for bedding out this season; but there are several prominent nurserymen who make a speciality of these popular plants, and from them suitable specimens for all purposes may be obtained throughout the spring and summer months.

About the end of September those plants which have done duty in the flower garden should be lifted, and placed in quarters where they are safe from frost. Many of them will then be in full beauty. Some of the best of these should be potted, shaded from sunshine, and receive repeatedly syringings for a couple of weeks, then if given the temperature of an intermediate house will flower splendidly throughout the autumn and early winter months. The main portion of the stock may be placed in deep boxes, surrounding the roots with soil, and stood in a sheltered position in the open air, where, with a little attention in protecting from night frosts, they may remain for several weeks, and then be transferred to their winter quarters, dry frost-proof sheds or under the stages in cool houses, the soil, of course, being kept dry throughout the winter.

Some time during February those potted should be placed in warm houses, such as vineries at work, stoves, or Cucumber houses, given a watering, and as soon as the roots have started regularly be shaken out, divided, and repotted. In this way a large stock may be quickly worked up, as each crown, if severed from the parent plant and placed in a 4 or 5-inch pot, will make a strong plant by bedding out time. But, of course, it is always advisable to retain some strong clumps undivided to supply large specimens for pots, tubs, and large beds. In repotting these large roots in spring the soil should as a matter of course be shaken from them, the loose rootlets be cut away with a sharp knife, before placing in pots just large enough to hold them.

When they are well established in these they ought to be shifted into others two or three sizes larger, using a very rich compost; one consisting of two parts loam, two of well-decayed manure, with a little charcoal and soot added, suits them admirably. These large specimens are extremely useful for conservatory decorations, for we never seem to have a plethora of big plants in flower where large houses have to be kept gay. Plants in 6 or 7-inch pots each having a single stem surmounted by a massive showy spike of flowers are also useful for a variety of purposes, notably for forming groups, or for dotting at intervals around the side stages.

Turning to varieties, those enumerated below will be found to include some of the best in cultivation.

ALPHONSE BOUVIER.—Rich crimson; flowers large and well shaped.

AMIRAL COURBET.—Green foliage, silver edge; flowers yellow, spotted red.

ANTOINE CHAUTIN.—Grand, large flowers of a bright cerise-salmon shade; dwarf, leaves green.

ANTONIN CROZY.—Crimson, fine spike, foliage deep green, edged purple.

BEAUTÉ POITEVINE.—Glaucous green foliage, flowers large, of a glowing red colour.

CAPITAINE P. DE SUZZONI.—Foliage light green, flowers of a fine clear yellow, slightly spotted.

CEUSIN JACOB.—Green foliage, flowers bright chestnut red, edged gold.

COMTESSE DE L'ETOILE.—Strong grower; foliage milky green; flowers fine clear yellow, thickly spotted with soft red on each petal.

DUKE OF YORK.—Vermilion-red, edged yellow; foliage green.

F. THOMAYER.—Purple foliage; flowers clear orange.

GÉNÉRAL DE NEGRIER.—Dark foliage; flowers cerise-red.

GERMANIA.—Very dwarf, massive foliage; flowers bright crimson, edged and marbled with yellow; one of the best.

KAISER WILHELM II.—Flowers scarlet; dwarf and free.

Among new varieties there are many decided acquisitions. A few of the best are—

KONIGIN CHARLOTTE.—Flowers very large, bright red, edged with gold. A gem for conservatory decoration.

AUREA.—Bold green leaves; flowers rich golden yellow, large and fine (not yet plentiful).

EGANDALE.—Bronzy foliage; flowers large, of a reddish shade.

MARCEAU.—Highly ornamental green foliage; flowers large, of intense scarlet.

AMIRAL AVELLAN.—Strong and compact grower; flowers clear yellow, spotted red.

AUORE.—Green foliage; flowers bright chestnut red.

DIABOLO.—Foliage green, shaded purple; splendid flowers of an intense red colour.—D. W. C.

PREPARING FOR THE ENEMY.

As the "merrie month" is now at hand, and so much depends on its behaviour so far as night temperatures are concerned, there is, no doubt, a widespread anxiety prevailing till such time as the critical period is past. Judging from our present standpoint, and given present immunity from frost, it may be that so far as blossom is concerned the more advanced stage of an early season will result in the protection afforded by a more developed foliage, as well as the tiding over of the crucial time when the delicate organs, if happily allowed to perform their functions, leave the embryo fruit less susceptible to injury. To a great extent amongst the many objects of our care, some there are, and not of the least importance, which one feels are beyond our aid; yet so far-reaching are the fertile resources of some men that it would be difficult to define where the line "impossible" is drawn.

I daresay that there is no season in which some new method is not employed with more or less success to defeat the enemy, and it is more than probable that these victories depend on prudent preparation and timely application rather than a hasty and unpremeditated encounter with the foe. Energetic action springs from dire necessity, but cautious deliberation yields prompt decision. On this subject the most valuable teaching appears to me to be that enjoined by the moral force of example, for it is one so affected in its results by local influences as well as individual character that no hard and fast lines of defence can be laid down. Some examples of smart generalship have been recorded for our benefit, and have also formed the text of various impressive lessons, which should point a moral for generations to come.

"Watch and work" must be the countersign for the month, and should the note of warning prove to be a false alarm few will regret it. My friend the busy man tells me how he saved his border of early Potatoes on the occasion of one of those black letter nights. True, the enemy stole a march on him in the silent watches; but "I could not rest, was out at daybreak, saw the tops all stiff, so worked away on them with the garden engine, and had the whole of the long border well doused ere any of my men turned out or turned up. The ice scaled off them under the operation, but I saved them." A less happy example was afforded to me by the lapse of duty on the part of a young hand who omitted to turn the heat on a late vinery one night on which a severe visitation came. The result was apparent in a few days in injured foliage with the loss of the points of many bunches, at that stage of growth in proximity to the glass.

Is it not a fact that amidst the wail of lamentations which may arise if occasion for it occurs, that remissness or indifferent generalship is able to account for at least some of the disaster? How much might be accomplished on emergency by a well ordered staff! Would it not be worth while, in view of impending danger in many a garden, to call a council of war; to take the hands young and old into confidence, and to see what our lads of the bothy, the kitchen garden men, or any department could suggest; to awaken their interest in the matter, causing them to feel and to share the responsibility attached to the position, then allot to each his post? It would not, I think, be an impertinent question on a horticultural examination paper, "What would you do in the event of an expectant 10 degrees of frost late in May in a garden with its average stock-in-trade?" Possibly a little of this war game on paper would be as helpful to our young students in after life as some of the scientific questions promulgated.

But what can be done? That is the question. I shall not again refer to what has been done. Perhaps the above question may be, to some extent, answered by asking what cannot be done? Indeed, with some few men, giants of the tribe, it would be difficult to say, for they would not court disaster by thinking of it. Some of them, I venture to say, are already prepared, and well prepared, for the enemy, and they will keep a bright look-out, too, until his presence is felt and they are grappling with him. Such men in command are not those "dressed in a little brief authority," for the spirit of action has a magnetic influence on the whole brigade, and when our young hands are properly imbued with this feeling that they are each and all of them indispensable parts to the machinery of a well ordered garden, they will respond with cheerful alacrity to the call to arms.

As to the munitions of war that can be made available for the purpose, it would be as impossible as it is unnecessary to compile a list, for those that have been employed comprise all things, from blankets to heaps of dry material set fuming to make a smoke envelope. The important point is to have things ready, and the little time devoted to that purpose it would be an unwise policy to grudge. A few things suggesting themselves are heaps of light litter, kept dry, and if advantageously disposed will, whether called on for covering or not, serve after as mulching for the Strawberries. Pea stakes may be lightly laid over tender seedlings of Cauliflowers, Broccolis, or what not, and should occasion arise a further light covering of Laurel branches, or other evergreens laid on these will secure the plants from harm. In many places a few cartloads of evergreen branches, such as Laurel or Spruce, are readily obtainable, and few things will better commend themselves to a variety of purposes with the object in view, whether hung from some temporary wire S hooks over the wall trees, or stuck slantwise in the soil between lines of tender things, or, again, lightly laid on the flat.

It would perhaps be an insult to general intelligence to enter into further suggestions of the kind, which must be regarded rather as extraordinary means to the end, for this attack on our peace and welfare is to be looked for at a time when the ordinary paraphernalia of covering is monopolised by a host of things lately transferred from the houses for hardening. The season may, indeed, be so far advanced that the very date—day of the month—entails a false feeling of safety. But recent history points a warning finger at those who would be beguiled with a confidence trick. For this somewhat prolonged rambling my excuse must be that as I write, thoughts of the cruel havoc wrought by the subtle and silent enemy are recalled to mind. Smart men, too, have been caught; but prudent men will, I think, be as far as possible prepared for the enemy.—STAFF OFFICER.



ORCHIDS AT STAMFORD HILL.

It does not now matter in what direction one steers out of London, one is sure to find somewhere or another a number of Orchids. As representative of the northern portion of the metropolis mention may be made of the collection of H. T. Pitt, Esq., Rosslyn, Stamford Hill, and of which Mr. R. Aldous is the grower. Looking at the house from the main thoroughfare, no stranger would surmise for a moment that there were such gardens in the rear—gardens where flowers, hardy and otherwise, fruits and vegetables find a congenial home. Yet such is the case at Rosslyn, and Orchids of all things are the prime favourites.

On the occasion of a recent visit the grower acted as a guide in conducting the writer through the fourteen glass structures that are needed for the shelter of these exotics. The houses vary in almost every respect; some are lean-to, with one aspect, others with another, while in addition there are several having span roofs, both high and low. Here are found Orchids of many kinds, and generally speaking in very good health, though, as is customary, considerable variations in this respect are apparent. To a certain extent the plants are handicapped by a railway, which runs along the lower portion of the garden, and from which, as there is a considerable amount of shunting done, fumes reach the stock, with the result that many buds fail to attain maturity.

Despite this, good health is, as has been said, very conspicuous, and reflects much credit on both the owner and his grower. The growth in bulk of the collection is persistent, as consignments of fresh plants are constantly coming to hand. To a certain extent this is a disadvantage, as, space being limited, it causes a tendency towards crowding in one or two of the houses, which one would deem anything but an advantage to the occupants. This is unfortunate, but no doubt a remedy will eventually be found for it, when the probabilities are that all—owner, grower, and plants—will reap the benefit.

On the occasion of the visit, about seven days ago, there were not a great many flowers to be seen, though buds in varying stages of development were very abundant. Such being the case it is not proposed to go into any details of species and varieties, but rather

to take a cursory survey of the various families which are grown and flowered in their respective seasons. Cutting is very closely followed here, so it is possible a dozen visits might be made without finding such a number of flowers as is seen in some establishments, where to cut the blooms is looked upon as almost sacrilege.

Notwithstanding this sparsity that there are good varieties is very well known, and that depicted in the woodcut (fig. 65) is one of them. This is *Odontoglossum excellens*, Rosslyn variety, taken from a plant that was staged at the Drill Hall on March 24th. As a glance at the illustration will show, the flowers are of perfect form, and the substance of the various organs is remarkable. But good as it is in these respects, it is equally so in colour, or rather colours. The prevailing hue of the sepals and petals is soft yellow, the latter having a white blotch of considerable size in the centre. Both these and the lip have numerous chocolate blotches. One of the greatest authorities on Orchids considered it the best



FIG. 65.—ODONTOGLOSSUM EXCELLENS ROSSLYN VAR.

form of *excellens* that had ever been shown. The Orchid Committee of the Society deservedly accorded the variety a first-class certificate.

The majority of the more extensively cultivated Orchids are seen at Rosslyn, a large share of attention being given to *Odontoglossums*, which are decidedly numerous. The growth made is in all ways satisfactory, and fine spikes of flowers are formed, from which, owing to the cause mentioned above, the buds are somewhat prone to fall. *Cypripediums* thrive, varieties of *bellatulum* being conspicuous. *Cattleyas* and *Laelias*, it is almost superfluous to state, are prominent in all respects. *Masdevallias* with many Orchids of botanical interest are by no means neglected, any more than are *Oncidium*s and the several others of which no mention has been made.

Hundreds, nay thousands, of plants are grown, and it was pleasing to notice the freedom from insect pests and the signs of their visitations. This is as it should be, and with the good health shows the great adaptability of Orchids for cultivation in the neighbourhood of towns, though of course there is a freshness about country-grown specimens that cannot be found amongst the denizens of our large manufacturing centres.—H. W.

CYPRIPEDIUM BELLATULUM.

THIS pretty and interesting Orchid is now in flower, and makes a pleasing change from the other species, being quite distinct from any others that flower at this season. The foliage alone, when the plants are healthy, is very beautiful; the ground colour a dark glossy green with tessellation of a lighter hue, the upper surface looking like a thin coating of ice, the reverse of the leaves deep reddish purple. The blossoms vary considerably in colour, the most usual tint being a clouded or creamy white, densely spotted with blackish purple. The outer segments of the flowers are roundish, and the dorsal sepal is concave, the labellum being small, white spotted with purple. The scape rise to a height of about 4 inches, and each bears a solitary flower about 3 inches across.

It is by far the freest flowering, most easily grown, and

desirable of the section to which it belongs, and with reasonable care soon makes fine specimens. Plenty of heat should be afforded the plants, otherwise progress will be slow; and a shady moist corner in the East Indian house, if possible, ought to be allotted them. We grow the plants in a mixture of two-thirds of loam to one of peat, and to keep this from settling down too closely a little chopped sphagnum and a sprinkling of small crocks are added. Most growers are in the habit of using pieces of limestone in the compost, and where the treatment is found to suit the plants it should not be discontinued, though from my own experience *C. bellatulum*, at least of this section, can be capitally grown without it in certain classes of loam. The soil we procure is strongly impregnated with lime, and this probably accounts for our success with a plant that some other growers have found the limestone indispensable for. In any case a few nodules of the stone can do no harm, and as above mentioned those who have been successful with it should continue its use.

Like all in the genus *C. bellatulum* abhors a close and heavy rooting medium, and anything sour about the roots is certain to be fruitful of mischief. In repotting, then, be careful to remove everything of this kind, all decayed roots, sour peat, or other material, and have the new pots thoroughly clean. Water may then be given unstintingly with no fear as to the results, even just after repotting, always provided of course that the plants are healthy and well rooted. Winter and summer these plants must be kept moist, the application of water being naturally more frequent during the latter season. Sprinkling is not advisable as a rule, an occasional bath to remove any dust that may have collected on the leaves doing no harm. The plants should be looked to shortly afterwards to see that no water is lodging about the heads or in the axils of the leaves, inverting the pots to allow it to escape if any is seen.—H. R. R.

HARDY FLOWER NOTES.

FROM what we see and hear it is highly probable that the Daffodil is about to suffer a temporary eclipse in the eyes of those who follow the fashion in flowers, and I was not at all surprised to see the remarks to this effect made by "K., Dublin," in his eminently readable article headed "Daffodils in Dublin." While this may be so, the eclipse will never become a total one, or, at least, will be only such in certain quarters, as many of us will be disposed to note that it is "invisible in my garden." Indeed, I am not certain (although we dare hardly say it) that some of us who are not growers for profit may not view a slight falling off in the popularity of the *Narcissi* with some secret satisfaction, knowing as we do that this will lead to a reduction in the price of some of the newer varieties. We may go on adding to our collections of the choicer flowers in full confidence that it will not be long before fashion again favours the Daffodil. As it is, we have now a long season from the time when the tiny *minimus* ushers in the season till the *Gardenia*-flowered double *poeticus* shrivels before the summer sun. As I write many are over, and before this appears only the later ones will be left to charm us with their snowy perianths and their crimson or saffron-tinged cups.

If, then, the Daffodil is waning in popularity, does it not appear as if the Tulip is about to have its renaissance? Those who have upheld its banner amid the crowd of indifferent or hostile on-lookers will rejoice to see it, and many gardens will be greatly enriched by growing more of these flowers, which have enamelled on their petals the bright tints of the East, whence they derived their birth. I am not going to say anything in favour of Tulip beds. These are well enough in their way; but even the cheaper Tulips, such as *Crimson King*, *Chrysolora*, and others as cheap, are charming when their shapely flowers rise among the young leaves of the hardy flowers, or carpeted by *Arabis*, *Myosotis*, *Aubrietia*, or other dwarf plants.

Then there are the species of Tulips, many and varied as they are. There is no lack of yellow in the middle or end of April, and yet welcome among it all are the flowers of *Tulipa australis*, called also *T. Breyniana*, but most frequently known as *T. Celsiana*. Bright and cheery are they when their yellow segments open out almost flat in the mid-day sun; but attractive, too, are they when in bud, and when as yet they are not erect but droop sideways. A goodly number of Tulips come at first with bent stems which lead the uninitiated to think they will never hold their heads erect, and this habit is among the interesting ways of plants, a reason for many of which we would fain discover. The Southern Tulip is related to our native *T. sylvestris*, and resembles it to some extent, having, however, its perianth flushed with red on the outside. Very pretty, too, is *T. Biebersteiniana*, a variety of *T. australis* coming from Asia Minor, whence I had it from near Broussa, and some bulbs which came last year from Mr. E. Whittall from the

neighbourhood of Smyrna, appear to be the same. *T. australis* is said to be a native of Savoy.

A charming little plant for the rock garden is *Alyssum pyrenaicum*, which has been in flower for some time. To me, at least, the name of *Alyssum* almost invariably recalls the Rock Madwort, *Alyssum saxatile*, with its masses of small golden flowers, but the Pyrenean Madwort is different in some ways, the principal being that of colour, which is pure white. It is also more exclusively a plant for rockwork, where its bushy habit, dwarf growth, whitish leaves, and profusion of flowering make it much admired. It seems to flower earlier with us than in its native habitats, as Monsieur H. Correvon gives its flowering period as June to July in his useful little work "*Flore Coloriée de Poche*," and in "*Les Plantes Alpines*," of the same writer, June is given. It flowers here in April, and would perhaps be even more appreciated a little later in the season. It grows only a few inches high, and should have full exposure to the sun, thriving best also in a crevice or between two stones where perfect drainage is secured. The ideal compost prescribed for it is one-half sand, one-fourth loam, an eighth of peat with a little leaf mould, and an eighth of broken stones. A little variation in these quantities will not injure the plant, however, and, although not indispensable, this little Pyrenean Madwort appears to be the better of the addition of a little limestone, or of being placed between two pieces of that stone. *A. pyrenaicum* is not very easily procured, but when obtained it may be increased by cuttings or seeds. It is a native of the Eastern Pyrenees.

Another charming rock garden plant is the little *Saxifraga Rocheliana coriophylla*, generally known simply as *S. coriophylla*, but recognised in the Kew Hand-List as a variety of *S. Rocheliana*, and named by Grisebach. It is one of the tiny plants over which the lover of alpine waxes ecstasies, unassuming and free from brilliant colour as is this *Coris-leaved Rockfoil*. The smooth leaves are rather thickish, with white edges, belonging as it does to the encrusted section. The flowers are pure white, and are freely produced, as a rule, in my garden, and this year forms no exception. *S. coriophylla* is frequently grown in a crevice between two stones, but I grow it in sandy peat and grit in a small level pocket of a rockery facing south-west. It grows readily, but does not increase quickly, unless divided or opportunity offers for raising from seeds.

Saxifraga Boydi seems to be becoming a general favourite, and its bright yellow flowers and good growing habit are points in its favour which commend it to many. The white variety is also becoming fairly well known, and is more easily grown than *S. Burseriana*, although the latter has some advantages. Seedlings present some variation, and Mr. Boyd of Faldonside, a brother of the raiser of the typical *S. Boydi*, lately sent me a very pretty straw coloured variety, which, when it increases in size, will make a very attractive little plant.

Now that we have such fine Violets as *California* and *Princess of Wales* and the charming *Violas* now in bloom, it seems to require some courage to commend such a tiny little Violet as *Viola biflora*. Works of reference describe the flower as "small," and it is hardly hypercritical to say that this adjective is not expressive enough to reveal the diminutive size of the little yellow flowers with their lips streaked with black, which form the floral attractions of the plant. Yet it is a pretty little Violet, with erect stems and kidney-shaped leaves of a pretty green. It creeps at the roots and sows itself, so should be a cheaper plant than it is. It is an ideal one for the edges of the walks, for rambling among larger plants, or for growing between the steps of the rock garden. With me it suffers somewhat by the ubiquity of *Saxifraga Huetti*, which is here, there, and everywhere, and among its yellow flowers those of the Two-flowered Violet are not easily seen. When pointed out to the garden visitors they are greatly pleased with the tiny Violet, which from its very insignificance is pleasant to see.

A few lines must be given to the several Wood Anemones now in flower. Graceful and beautiful they are, and as they open their blossoms to view we linger to admire their form, their texture, and their colour. Of snowy white are some, such as the well-known single one of the woods or the pretty double variety with its button-like flowers. Very charming, too, is the fine variety, *cœrulescens*, supposed originally to have come from the Emerald Isle, with its pretty blue flowers. Inferior to it is *cœrulea*, with smaller and lighter coloured flowers; while a pretty one of distinct purplish shade, found by Mr. James Allen near Pau, is remarkably pleasing at the time of writing.

Many and varied are the gems of the garden now, and of loveliness inexpressible. *Adonis vernalis*, with flowers like yellow satin, opens to the April sun, a good plant covered with bloom being a charming sight. The little *Polygala chamæbuxus* is covered with its little pea-shaped flowers. *Primula* species many, and *Primroses* and *Polyanthuses* in still greater number delight us

yet. Sweet-scented Wallflowers greet us with their perfume. Starry Doronicums, the Banes of the Leopards, form the pleasure of the gardener. Grape Hyacinths still raise their cones of blue. Anemones delight us with their varied colours. Aubrietias are sheets of mauve, lilac, purple, and rose. Forget-me-nots enchant us with flowers of softest or of deepest blue, and many other cherished treasures stand around either in full bloom or preparing to yield us their yearly offering of delight in return for our care. Delight of the highest it is, and full recompense for the labour and the care they need. They repay it with interest which would satisfy the most exacting. He who is not satisfied with the array of the garden's beauty is a churl indeed, and it is vain to expect of him any recognition of the value of those things which add to the joy of life, and the sweetening of the inevitable cup of bitterness which at times is the lot of all.—S. ARNOTT.

GARDEN PESTS AND ANTIDOTES.

(Continued from page 344.)

AERIAL PESTS.

FROM the time of Herodotus, and long before, ashes and road dust were employed for smothering insects infesting vegetation, and in the past fifty years gardeners have endeavoured by winter dressing to prevent the recurrence of insect plagues. During recent years the practice of smothering has been decried, and in many cases abandoned, with a certainty that insect pests have vastly increased of late years. No precautionary measures being adopted, it is clear insects have a free hand, and though I do not approve of the smothering doctrine, it had a deterring effect on many parasites which sleep through the winter months, in order that they may take advantage of the reviving influence of spring, its glowing warmth and genial moisture calling vegetation into activity.

In the old time gardeners and orchardists always gave their fruit trees a complete overhaul in the winter. Gardeners dressed the wall trees under their charge, and even attended to the walls. Orchardists gave some regard to pruning, cutting out cross limbs, thinning where crowded, and often coating the stems with white-wash and dusting the heads with quicklime. Even bush fruits were dusted with a mixture of two parts air-slaked lime and dry fresh soot, sometimes with the object of making the buds distasteful to bud-eating birds, but to kill the lichen and moss and the hordes of pests harbouring thereon, and on or under the clods and stones of the earth, as well as those ensconced under the rough bark and in the crevices of the bushes. All these things had a purpose, and that they effected it is clear from the greater freedom then of crops from insect attacks than is the case at the present time.

In looking through the volumes of the *Journal of Horticulture* for well-nigh half a century, I was much struck with the frequent allusion to the winter dressing of fruit trees. Soot and lime are the chief substances advised as antipests by the older gardeners for application to the soil. Perhaps they did or they may not have known that this combination is the very best in which to apply matter to the plant for the production of healthy, clear-skinned, and highly coloured fruit. Some went even further, and used a mixture of lime, sulphur, snuff, softsoap, soot, and other unpalatable substances, each in his way striving to compass the destruction of the pests, which were as recurrent in their appearance as the seasons. Soot water, lime water, woodash water, caustic lime, and dry soot, with wood ashes, were about the main of the old practitioners' recommendations. Perhaps it may be urged that they knew no better, but that is very uncharitable, for what is most enduring, commonest, and generally beneficial is most important to mankind, and it is a notable fact that these things are still foremost in place as generally useful for the prevention and destruction of crop pests, and likewise for enriching the soil or conferring other benefit on the plants grown on it.

Soot, lime, and wood ashes are no doubt clumsy, but Nature does not deal in essences and extracts, for these are unable to support life for prolonged periods, therefore the bulkier the substance relative to its containing an essential amount of nourishment in a quantity the better for the plant or the animal. This implies a substance composed of many elements, or of some one specially beneficial to the subject, which will act against the enemies of the plant and in favour of its future health or nourishment.

Of late years we have come to the conclusion that winter dressings are useless. Entomologists are, to a great extent, responsible for this by averring that insects are little affected by climatic influences, and in the egg state are practically unassailable. This is the greatest of delusions, either as regards fungi or insects. What hibernating insect or that passing its existence in

the egg state will bear water with impunity at a temperature of 140°? What egg escapes addling when dusted with caustic lime? Where is the insect or egg of one that will not succumb to a solution of caustic soda and potash? What is the difference between neglect of, and the use of, precautionary measures?

Look around. Where is the scale on the Fig and Peach or Nectarine trees that were syringing with hot water at 140° to 160° whilst the trees were quite dormant, and care taken to prevent the water damaging the roots? Also, where are the aphides in such case, and the hibernating red spider? Make no mistake, but tell exactly where they are, and why the trees are glowing with health and promise of fruit. Remember that for such recipe, which entails no cost for material and very little in preparation, we are indebted to the late Mr. R. Fish and others before him.

Or where is the mealy bug on Vines that were treated with petroleum last autumn, as advised some years ago in these pages by Mr. W. Taylor? I found it a complete remedy, a mealy bug not being found in the house after the treatment.

What of the Gooseberries, Currants, Apple, Pear, and Plum trees that were dusted with caustic lime whilst they were damp and perfectly dormant? Where are the moss, lichen, red spider, and aphids? What of the lice that cluster in the opening crowns of Strawberries where neither lime nor soot has been used?

Again, what has been the effect of washing trees infested with scale with a lye of wood ashes—potash in solution? What of the scale, encased codlin moth pupa, hibernating red spider, chermes, aphids, and winter moth eggs, including the lichen and moss on trees treated in proper season and manner with a solution of caustic soda and commercial potash, as advised by Mr. Leonard Coates only a few years ago in the *Journal*, and found efficient by Mr. Wright (late of Glewston Court) and Mr. Molyneux?

Finally, what is the difference between trees which have been dressed in the winter with a proprietary insecticide, such as Gishurst compound, and trees which have been left to take care of themselves? In brief, what is the contrast between crops on land, properly worked and manured and preventive measures taken against the recurrence of their invading parasites, and those on land foul in itself and in the plants on it?

Now, assuming that due precautionary measures have been taken in respect of the soil management and the plant during the winter there will be little trouble with insects until the fruit is set, but where the preventive measures have been neglected aphides, chermes, flower-bud weevils, caterpillars of winter moths, and some other pests make merry with the opening buds, unfolding growths, and tender foliage. That is the difference—the crop for the year is partly or wholly injured or destroyed when precautionary measures are neglected, and when preventive steps are taken at the proper time, with the right material in the effective manner, there is no bother or anything to dread but the pests that come unbidden to feast on the tender foliage growths and fruit. Perhaps some of these have escaped the winter dressing, most are the outcome of neglect, and where not that are migrations from neighbouring land or vegetation.

With the opening buds insect life becomes active. Mites live in the scales during the winter, ready to pounce on the tender leaves, and give them a freckled yellow and crimson appearance. Chermes are nearly as eager, biting at the bud scales, and making sad work ere the buds unfold. Even the bud-weevil saves some buds the trouble of opening, and directly the scales are thrown off those escaping such attention come the aphides, tiny creatures fostering amongst the unfolding leaves and developing blossoms. Sometimes mottled umber and winter moth caterpillars join issue with the host of invaders and clear all before them, leaving nothing but skeletonised and rusty remains. Blossom-bud weevil grubs frequently clear blossoms of the fructifying organs. In brief, every plant has some such ordeal to pass through ere there is the certainty of a set of fruit.

What has become of the natural checks to increase? Aphides were astir from the eggs in which they had passed the winter early in March, but the first ladybird did not put in appearance till April 2nd, and that a fortnight before the usual time (?) The natural aids therefore do not forestall, but follow pest invasions, so that relies on Nature find the crop of the year crippled or ruined before the checks to increase tell in favour of the plant on the attacking insects. All the pests infesting useful plants have their great nurseries in waste and neglected places, such as waysides, hedgerows and headlands, commons and woodlands, where the chief natural checks to increase are the birds and the carnivorous insects. Why not encourage them in such places? It means untold benefit to cultivators of useful crops, for it is in such quarters that crop pests increase and issue to invade and devastate cultivated crops.

It is therefore futile relying on useful insects. The cultivator must take preventive measures to safeguard his crops from the attacks of insects. Ladybirds and all useful insects do not appear

on the scene of invasion until the invading hosts have become fat and thriving on the juices of the attacked plant. That, however, is no reason why carnivorous insects should not be encouraged, bred, and placed where they will reduce the enemies of cultivated crops. Every useful insect on wayside, hedgerow, common, copse, and woodland plant or tree is of value to cultivators of the soil, while in neglected gardens and orchards their value is incalculable.

But where due precautionary steps have been taken there are few, if any, of the pests of crops to be dealt with until the blossom of fruit trees has advanced into fruit; nor are there any useful insects of consequence, for it is solely a question of host and of parasite, and the whole matter resolves itself into one of killing, not of sentiment. The black ladycow is the first to come out in the spring, and is worth all the rest of the ladybirds put together, its larvæ being as active as cocktail beetles, and much like them in colour and form, only very much smaller. In strange contrast to these are the larvæ of the *Syrphus* flies, the former being very bold and the latter as refractory as the "shrew." But even these "come to" with hunger, then the leech-like grub will set to work as fearlessly as a ferret at a rat.

Of the doings of carnivorous insects volumes might be written and their habits made clear by illustrations from life. To the cultivator of the soil such aids are invaluable, but their place is in the wilderness garden, pleasure grounds, hedgerows, and woodlands. There they do much to lessen the hordes of feeders on vegetation, and whence they are instant in season to migrate to where food is most plentiful and of a more acceptable kind. Such is my experience of useful insects. Protect them by all means, for they do immense good at no cost and cannot increase inordinately, as when their essential food fails they must perish. This, in the case of the cultivator, is with the enemies of his crops, and the only trustworthy agent in cultivation is the well-directed brain and practised hand.

Where due precautionary measures have been taken there will be little to fear from insects until the plants have made some growth and, in the case of fruit trees, have set the fruit. Then it matters not how careful the cultivator has been or what preventive measures have been adopted, there is danger of invasion, the parasite always smelling out its host and coming from quarters where cultivation is neglected or unknown, and no repressive measures beyond those of Nature adopted. It is no use relying on "friends" in such case. The attack comes as certainly as the season, and the grower must have a keen eye, and when the first of the invading host is seen mark it for prompt destruction. All attacks, or nearly all, have small beginnings, and the grand secret is to keep them so, killing the enemies before they have time to injure the plant or ruin the crop by unrestricted increase.—G. ABBEY.

(To be continued.)

WHETSTONE, EDGBASTON, BIRMINGHAM.

PLEASANTLY situated on the southern boundary of Edgbaston is Whetstone, the residence of G. H. Kenrick, Esq., the more than usually interesting abode of one of midland England's opulent manufacturers and public benefactors. He cherishes much that pertains to horticulture, and has a strong penchant—like his illustrious cousin of Highbury—for Orchids, of which he has a fairly extensive collection, remarkable, though, more for choiceness in variety than for individual specimens. The locality is noted for its diversified arboreal scenery especially, extending, as it does, over a large area, and dotted here and there with mansions, each embosomed in a park-like demesne.

Claiming prior notice is the peculiar position and attributes of the mansion of Whetstone, and situated, as it is, at the junction of Somerset and Farquhar Roads, its carriage front façade forms the hypotenuse of the thus-formed triangular space, which in most such cases is planted with trees and shrubs, whereas in this case a boundary fence and shrubbery have been entirely ignored in favour of a large space of grass, enclosed by a "dressed" low stone wall about a foot high, surmounted with a broad flat stone curbing next to the public footpath, with the carriage drive running parallel with the front of the mansion, and terminating at the side of the roads already named. It is an object of great attraction to the passer-by, and ready access to the front door is augmented by the abolition of entrance gates. This uncommon arrangement is known as the "American style." To a stranger especially, viewing it for the first time, a sense of insecurity from intrusion and a want of privacy is engendered, and altogether its *outré* appearance savours of some public institution or private hotel, strikingly novel and pleasingly attractive as it otherwise is. The mansion, a large and substantially built edifice of a modified Gothic style of architecture, is flanked on the right-hand side by a high conservatory extending to the boundary of Farquhar Road, and is furnished with window-like recesses, filled in with specially made large porcelain-like slabs to resemble glass, on which are beautiful, painted representations of plants and flowers, the deception

being so good that, even at only a short distance away to the observer, it is difficult to imagine that they are real windows at an obtuse angle with this wall. The outer wall of the corridor, in connection with the Orchid and other houses, runs for about 60 yards parallel with the Farquhar Road, and has been substantially and ornamentally built, and is terminated by the garden entrance gates, whilst beyond extends the kitchen garden wall.

Pushing the knob of the electric bell wire the writer was quickly admitted by one of the assistants from the commodious potting house, and through which speedy entrance is effected into the glass corridor already mentioned. It is an imposing structure, and is well furnished with large Camellias and other suitable plants, growing in a wide border at the base of the back wall, up which a variety of climbers are trained and continued under the span-roofed corridor. Workmen were busy re-arranging the electric light wire system extending the length of the corridor, owing to the supply being newly acquired from the dépôt in Birmingham, instead of by the long established engine and "plant" on the premises. Connected with the corridor are seven span-roofed houses, including such as the *Phalænopsis*, the *Dendrobium*, the *Cattleya*, the *Odontoglossum*, and the Rose houses, the remainder being devoted to miscellaneous stove and greenhouse plants. At the time of our visit a few days ago there was not a profusion of Orchids in flower, but there were evidences of having been a recent display, and also of a forthcoming show. Suffice it to say the stock of Orchids, which includes several of the choicest kinds extant, was in a thriving condition, and reflected much credit on Mr. Macdonald's skill.

In one house we noticed a large batch of Crotons in beautiful coloration, as also were several specimens of exotic Ferns, including grand plants of *Nephrolepis davallioides*, *Davallia fijiensis*, and *D. polyantha*. The Rose house was gay with a large assortment of Roses, conspicuous amongst which was a large plant of W. A. Richardson, with dozens of expanded blooms on it. The Sikkim Rhododendrons are a feature here, and all the year round blossoms of them are to be obtained according to the season.

Hippeastrums of the best and latest introduced varieties form another feature, and very striking was a collection of several of the newest and best varieties of ornamental foliaged Begonias. The conservatory was gay with a large assortment of flowering plants. Palms, Tree Ferns, and Cyclamens of fine quality were very beautiful, and best named tuberous Begonias were just emitting their growths. Two large frames filled with healthy Chrysanthemums, including several of the latest novelties for exhibition purposes, were suggestive of honours in store.

Mr. Kenrick is also a lover of alpine and hardy herbaceous plants, of which there is a large complement around the diversified pleasure grounds. There is no formal flower garden, but the beds are disposed here and there at the most salient points of view from the windows of the mansion; they were gay with Hyacinths and gave promise of a fine show of Tulips ere long. Prominent at the farthest end of the grounds is a large "Heathery" that has been recently enlarged, and when fully established it will have a very fine effect with its "hill and dale" outline. Not the least interesting portion of the gardens is a comparatively young Apple and Pear orchard interlaced with rows of specimen Rhododendrons, and bulbs springing up amongst the grass, such as Narcissi and Snowdrops, add to the effect. Various other improvements are in contemplation about the grounds.

Altogether much credit reflects upon Mr. Macdonald and his willing assistants in the exercise of their varied duties.—G.

GLORIOSA SUPERBA.

THIS is one of those useful plants that deserves to be grown on a much larger scale for yielding flowers during the summer. The blooms of good varieties are always admired, and look wonderfully well in a cut state for light arrangements in vases. The plants are easily grown.

The peculiar shaped roots should at this period of the year be shaken out of the old soil in which they have previously been grown. Pots 10 or 12-inch, according to the number of tubers, ought to be well drained, and filled to within 3 inches of the top with soil made moderately firm. The tubers may then be laid in and the pots filled with soil, leaving room for watering. This plant is not very particular about compost. Peat and loam, with a liberal quantity of sand, will do very well, or good loam three parts, one part good leaf mould, coarse sand, and about one-seventh of decayed manure is also suitable.

Careful watering is needed after potting. If the pots can be plunged where they will receive slight bottom heat and be slightly covered with cocoa-nut fibre refuse, this prevents the application of water until the plants begin to grow. After they start the supply of water must be increased as the growth extends. If strings are arranged for growths to cling to they need very little attention in training, as once the shoots are started on the strings they invariably look after themselves, though occasionally a shoot will get out of place if not looked after.

While growing the plant requires a fair amount of light. It does not appear very particular, as we have grown it well over Cattleyas, also in the stove, and the lower temperature of the Palm house. During the summer an intermediate structure will suit very well, nevertheless it thrives best when grown in plenty of heat and moisture. After growth the plant requires a thorough and lengthened rest. The tubers may be stored for fully three months in moderately dry soil in an intermediate temperature. We generally store the tubers away in the pots in which they are grown.—O. M.



EVENTS OF THE WEEK.—Horticulturists within the metropolitan area will not be very busy with shows during the coming week—in fact, the only one is that of the Royal Horticultural Society, of which a note will be found below.

— WEATHER IN LONDON.—For a full week now we have had magnificent weather. The days have been brilliant with sunshine, and the nights cold, clear, and inclined to be frosty. It has occasionally been dull in the mornings, but this has not been long before the sun has come through. Genial showers are needed.

— WEATHER IN THE NORTH.—The weather was extremely fine up to the end of last week, the days warm with a good deal of sunshine, the evenings occasionally somewhat cold. On the afternoon of Saturday gentle showers fell. During both Sunday and Monday a coldish high wind blew in gusts from the West and N.W., and recurring showers fell on both days. The conditions were much the same on Tuesday morning.—B. D., *S. Perthshire*.

— THE WOBURN EXPERIMENTAL FRUIT FARM.—We are requested by Mr. Spencer Pickering to state that although no formal invitation to visit the Woburn Experimental Fruit Farm will be sent to horticulturists this year, all who are interested in the undertaking will be welcomed there on any Saturday during the month of May. Those who propose paying the farm a visit are requested to send notice of their intention two days previously to Mr. L. Castle, Ridgmont, Aspley Guise.

— ROYAL HORTICULTURAL SOCIETY.—The next fruit and floral meeting of the Royal Horticultural Society will be held on Tuesday, May 5th, in the Drill Hall, James Street, Westminster. At three o'clock a lecture will be delivered by Mr. J. G. Baker, F.R.S., on the "Species and Varieties of Cultivated Tulips." An interesting feature of this exhibition will be a large collection of original paintings of Irises and Daffodils by Mr. W. J. Caparn, of Oundle, Northants.

— A TWIN PEACH TREE.—I have never yet raised twin Peach trees. I should think the trees mentioned on page 377 are the produce of two kernels. These are very frequent in Almonds and probably in Peaches also, but as Peach stones are not used for dessert as Almonds are they are not noticed. If the trees are not visibly separate they were probably united at a very early date. It would be very difficult to discover the junction now. I gather from the description that one half of the tree is a Nectarine and the other a Peach, but quite distinct.—T. FRANCIS RIVERS.

— TULIPS IN VICTORIA PARK.—"A Visitor" writes:—"Having read the account on page 370 of the Tulips in Victoria Park, I was induced to go and see them. The display exceeded my anticipations. The large beds must contain many thousands of plants, and not a failure was observable, nor a 'rogue' to be seen. The varieties did not appear to be named, and if they were the names could not be read except in the beds near the roadway. Could not Mr. Moorman make a little index bed in a convenient position another year with a short row of each variety across it duly named? This would be instructive to many visitors. He is to be complimented on the rich floral treat afforded, as are Messrs. Carter & Co., the vendors of the bulbs."

— GARDEN HAND-PUMPS OR SYRINGE-ENGINES *versus* HAND-SYRINGES.—Having had a long-life experience of various forms of these useful appliances, and a predilection in favour of the former, especially where an extensive use of it is required, I have often wondered why gardeners in general have not adopted it in preference to the ordinary syringe. It is superior both in regard to the far greater expeditiousness, ease, and facility with which the work can be performed, especially when a suitable length of indiarubber tubing is attached for the more ready application of water or liquid insecticides about the plants, and particularly with regard to those trained against high walls or conservatory roofs, in addition to which the loss of time and extra labour involved in replenishing the ordinary syringe with water or other liquid are factors of very considerable importance.—W. G.

— GARDENING APPOINTMENT.—Mr. Geo. Parr, late gardener to A. Benn, Esq., has taken charge of the gardens of J. H. Arkwright, Esq., Hampton Court, Herefordshire.

— MR. ROBERT LINDSAY.—This gentleman, who has been Curator of the Royal Botanic Society's Gardens, Edinburgh, for several years, retired from that position on the 31st ult. The office of Curator is being dispensed with, but Professor Bayley Balfour has efficient assistants in the management of this fine garden.

— FRITILLARIA MELEAGRIS.—I send herewith some flowers gathered from a beautiful patch of meadow near the river Mersey, which is quite gay with their flowers. I am informed it is rather rare in this locality in a wild state, consequently you may think it worth while making a note of it.—ROBT. MACKELLAR, *Cheadle, Cheshire*. [The flowers sent were of good size and splendidly coloured.]

— FERTILISATION OF FLOWERS BY BEES.—Although seldom adopted, it has long been considered by cultivators to be an excellent practice to put a hive of bees in a Peach house started early in the year, when the trees are in bloom, to insure a good set of fruit; but according to an experiment made at the Cornell horticultural station bees are not inclined to work out of season. A hive of bees was wintered in a house filled with Tomato plants. Not only, however, did the bees not fertilise the flowers, but they made frequent efforts to escape from the house, and were found to be useless as carriers of pollen in the winter.

— BIRMINGHAM GARDENERS' ASSOCIATION.—At the Athletic Institute, Birmingham, on the 27th inst., an interesting meeting of this Society was supplemented by an exhibition of Daffodils both in pots and in the cut state. The competition was comparatively small. The first prize was adjudged to Mr. A. Cryer and the fourth to Mr. H. Sneyd. Messrs. Pope & Sons brought an interesting collection of cut blooms of Daffodils, as also did Mr. C. Biek. An instructive discussion (opened by Mr. W. Spinks) took place, and was taken part in by several of the members. Mr. Clements of Harborne brought some of his prize Auriculas, and Mr. Greig of Harborne a plant of *Primula obconica* in very fine form.—W. G.

— COVERING POTS.—A correspondent lately recommended the use of crinkled paper for covering pots used in house decorations, while others objected to its use, as partaking too much of the cheap luncheon table. With the latter I cordially agree, and being responsible for the decoration of a large country house I may be allowed to state how pots may be made very attractive by covering them with Box. If it is a 6-inch pot that has to be covered, cut the branches from a Box tree, about 7 inches in length and fasten them round the outside of the pot with two bands of thin invisible wire. If neatly done the pot will be completely hidden, and will be the admiration of all. Young men soon get adepts at "boxing" the pots, and it does not take so long as would at first sight appear. From remarks that are often passed by visitors, I am inclined to think that Box may be used for the purpose much more than has hitherto been the case.—S., *York*.

— BOURNEMOUTH AND DISTRICT GARDENERS' MUTUAL IMPROVEMENT ASSOCIATION.—This Society now holds its meetings at the Wilberforce Assembly Rooms, which is a more central position in the town and available from all parts of the district, upwards of twenty-four members having been added since the change of meeting place in February. A largely attended meeting was held on the 21st inst., the chair being occupied by C. H. Mate, Esq., one of the Vice-Presidents; and amongst those present were J. B. M. Camm, Esq., Burnham Grange; Rev. G. S. Bevir, Holdenurst; Mr. J. Beek, late gardener to Lord Allington, Crichele, who is now a resident in Bournemouth; and Mr. A. Skinner, Highcliffe Castle. T. J. Hankinson, Esq., J.P., was elected President of the Society in the place of Dr. Hitchcock, J.P., who resigned owing to his inability to attend the meetings. An excellent paper on "The Hardy Herbaceous Border: How to Make, Keep, and Enjoy It," was read by Mr. M. Pritchard, Christchurch, who makes a speciality of the cultivation of herbaceous plants. Hints were given on the preparation and planting of the border, with a select list of plants and the position they should occupy. The essayist did not favour the planting of spring flowering bulbs in the herbaceous border, but did not object to Gladioli and Lilies having a place there. He spoke highly of the new race of giant flowered Gladiolus, a cross between the Saundersi and Lemoine varieties. Mr. Pritchard added greatly to the interest of his paper by staging a fine collection of bunches of hardy flowers. Heartly votes of thanks was accorded to the exhibitors, and also to the Chairman.

— AMERICAN PLUMS.—Plums proved the least satisfactory of all fruit crops in western New York last year, and the reason assigned was that the crop of 1894, the largest ever known, proved such a drain on the vitality of the trees that they did not have strength enough for a crop the succeeding year. A marked exception to this rule was found in trees of the old variety Reine Claude, which gave a full yield of as large and fair fruit as ever.

— BARNSELY "PAXTON" SOCIETY.—Programme of meetings:—Meetings are usually held on the second and fourth Tuesday in each month in the Society's rooms, Queen's Hotel, at 7.30 P.M. May 12th.—"Summer Bedding," Mr. W. Winter. May 26th.—"A Chat about Orchids," Mr. S. Ballinger. June 9th.—"Summer Treatment of Bedding Plants for Winter and Spring Use," Mr. C. H. Ridler. June 23rd.—"The Rose and its Cultivation," Mr. G. Shaw.—S. BALLINGER, *Hon. Sec.*

— APPLE ANNIE ELIZABETH.—Mr. Robert Morrow sends us, from Leominster samples of this Apple to show the keeping qualities of the fruit. They were grown by an amateur, who, when he picks them, rolls them in tissue paper and keeps them in a cellar. The fruits are as fresh, clear, and firm as when gathered, in a perfect state for cooking, and sweet enough for dessert use. We know by experience that the method of storing referred to is good. The late Mr. R. Gilbert used to keep choice Apples for use in April and May in a similar manner.

— LINSEED OIL MEAL.—Linseed oil meal is rich in plant foods, and if these were rated at their cost as obtained from nitrate of soda, dissolved bone-black, and muriate of potash, a ton of linseed meal would have a fertilising value of 18 dols., and would be worth for fertilising purposes about 26 dols. as the ordinary mixed fertilisers are sold. A late bulletin from the Ohio Experiment Station calls attention to the fact that inasmuch as this meal is now selling at 16 dols. a ton, the farmers who are buying fertilisers can get plant food in this way at reasonable cost.—("Garden and Forest.")

— COUNTY COUNCIL HORTICULTURE.—So full of interest to everyone concerned in education is the Government Education Bill now before Parliament, that an adventurous reporter of the "Surrey Comet" recently interviewed Mr. Hugh Macan, Secretary to the Surrey County Council Technical Education Committee, and the excellence and success of whose work in that county may have had something to do with the modelling of that measure. Amongst other things Mr. Macan said that if thought best in the county the new education authority under the Bill could teach gardening instead of grammar. Here, no doubt, a tempting opportunity for alliteration offered, but the undoubted fact remains that whilst gardening means education for a livelihood, grammar means education in literary polish, and no more. The need of education now is that it shall be of a practical kind. Too much of it is now frittered away in the learning of creeds and classics, whilst the great necessity, that of a livelihood, has been ignored. We hail with delight the better prospect for practical training in the future, and in horticulture especially.—D.

— LIME IN POTATOES.—During last season experiments were made at the agricultural station of Rhode Island on the application of air-slacked lime to soils in the growth of Potatoes. In these experiments it was found that the benefit of lime was very considerable, provided the land contained a sufficiency of organic matter. With an application of about 2 tons of lime per acre, each 100 lbs. by weight of produce obtained consisted of 74.2 lbs. of marketable Potatoes and 25.8 lbs. of small tubers; while similar plots upon corresponding soil without lime yielded in each 100 lbs. of produce 63.3 lbs. of marketable Potatoes and 36.7 lbs. of small tubers. In forty-eight different experiments it was found that while the total yield of Potatoes was not increased by liming, with few exceptions the per-centage of large marketable tubers was increased. In other experiments the total yield of Potatoes was also increased, apparently as a result of liming. It will be obvious, therefore, that a gain of 10 per cent. in large tubers by the use of air-slacked lime would be a factor of considerable financial importance provided there were no drawbacks in the way of its attainment. Such a drawback, however, is sometimes met with, owing to the tendency of lime in certain soils to increase the Potato scab. Under such circumstances crops of Potatoes should not follow each other at close intervals, or a rotation of crops should be so arranged that two or three crops intervene between the time of liming and the growing of the Potatoes. It is interesting scientifically, says a contemporary, to note that the experiments at Rhode Island show most conclusively that while the lime of itself does not produce the scab in Potatoes, it does in some way favour the growth and development of the disease germs upon the Potato tubers.

— DIELYTRA SPECTABILIS ALBA.—This white variety of the well known Lyre flower is already in flower, but does not seem to hold up so well against the cold wind as its rosy tinted type. When obtained true the blossoms are of the purest white, a chaste and beautiful plant, but there are forms of it in cultivation with washed-out looking blossoms, neither white nor pink.—H. R. R.

— PYRUS SPECTABILIS.—Commonly known as the Chinese Apple, this is a flowering tree that is just now of unique beauty. For shrubberies and other positions this plant, with its semi-double Apple-like blossoms, is of the greatest value, and it is strange that it is not much more extensively planted. The tree attains to some considerable size in a congenial position and a suitable soil.—H. W.

— CABBAGES BOLTING.—Although this is apparently so prevalent this season it is worthy of remark, perhaps, that out of a bed of over a thousand plants of Ellam's Early not one has bolted, and we are now cutting daily from them. The seed was sown in August, the plants later on pricked off, and placed in their present quarters in October. A smaller bed of Wheeler's Imperial is equally satisfactory, the plants growing freely, with as yet not a sign of bolting.—H. RICHARDS, *Coldham Hall*.

— CANARY ISLAND POTATOES.—Small tubers of these imported Potatoes, very clean and handsome, and of capital seed size, can now be purchased at 2d. per pound in the shops. There is not enough of them even at that low price to make any appreciable effect on the sale of old home-grown tubers, which still keep very good indeed. These Canary Island tubers are grown on a poor but volcanic soil, as Mr. D. Morris told us in the admirable paper he read some time since before the Royal Horticultural Society, and when they reach us the skins are quite hard set, and the tubers apparently ripe. I should like to hear of someone who had the space at disposal who would at once obtain a few pounds weight of these tubers, expose them fully to the light for a few weeks, and then early in July plant them on a warm border, just to see whether in that way it may be found possible to secure young Potatoes at the end of the year. The experiment is worth trying.—D.

— MOUNTAIN FLOWERS.—The flowers which grow on mountains almost always become dwarfish, but their blossoms have a tendency to become larger and more numerous. The Scurvy Grass growing on the muddy shore is 6 inches high, sometimes twice that height; but on the mountain it seems merely a large cluster of white flowers, and is little raised above the ground. Our common Buttercup becomes a low growing but large and handsome flower on the alpine pastures. The seeds, too, are more abundant at a great elevation; and the Scurvy Grass, in places so barren as that its existence would seem almost impossible, bears such dense masses of its oval pouches that even botanists at first fail to recognise a plant familiar to them when by the sea. This increase, says a contemporary, of flowers and seeds on bleak and barren soil seems to be a providential arrangement, in order that when hardship presses on the life of the individual plant, so that it is in constant danger of perishing by cold, it may, by becoming more fruitful, scatter as many seeds as many plants would do in a more sheltered spot.

— CARNATION DISEASE.—Carnation lovers will read with much interest a Bulletin just issued from the Agricultural Experiment Station of Purdue University. It is entitled "Bacteriosis of Carnations," and describes in great detail an elaborate investigation which Messrs. Arthur and Bolley have carried out on a disease with which Carnations are very frequently afflicted. That this disease is caused by true parasitic bacteria, these researches appear to prove beyond doubt, and Messrs. Arthur and Bolley have succeeded in isolating the specific microbe, which they have named "Bacterium Dianthi." Although this bacillus grows readily in artificial culture media when rendered acid, producing a yellow pigment, it has only been found in nature in leaves of the Carnation-Pink, and infection experiments seem to indicate that it is parasitic only upon Pinks, and produces no effect on the shoots, leaves, or tubers of Potatoes, or on other non-caryophyllaceous plants. The disease seems to be started by these bacteria entering the plant from the air through the stomata, or occasionally by means of punctures made by aphides; whilst their passage from one cell to another is due, in the opinion of the authors, to the secretion of an enzyme, by means of which the microbe "dissolves for itself a passage-way." Although no varieties of Carnation are exempt from the disease, yet they differ greatly in their susceptibility towards it. Delicate varieties and poorly grown plants are more readily affected than vigorous and well-grown varieties. It is satisfactory to learn that such a simple precaution as keeping the foliage dry, and preventing the presence of aphides, may practically banish this disease from our Carnation houses.—("Nature.")

— **DOUBLE DAISY THE BRIDE.**—Just as we are preparing for press we receive from Messrs. Cannell & Sons flowers of this new Daisy. They are very large and pure, borne on stems ranging from 7 inches to 10 inches in length. The variety is worth growing in pots for greenhouse decoration, apart from its obvious adaptability for spring bedding.

— **DORONICUM AUSTRIACUM.**—The value of this splendid herbaceous plant for cutting or garden decoration can hardly be over-estimated. Small plants from 3-inch pots put out last autumn are now quite bushes owing to the mild winter, and for the last three weeks have been covered with the large golden yellow Marguerite-like blossoms, each shoot flowering according to its strength.—R.

— WE are desired by Messrs. Macmillan & Co. to draw attention to the publication of "The Bamboo Garden," by Mr. A. B. Freeman-Mitford, C.B. Mr. Mitford has endeavoured in this volume to set forth the advantages of the cultivation of the Bamboo in this country, and an attractive feature of the book is the admirable drawings furnished by Mr. Alfred Parsons, whose devotion to plant life has found new scope in the flora of Japan.

— **CUCUMBER DISEASE AND KAINIT.**—"By-the-Sea" may be interested in being informed that a solution of kainit (1 oz. to 1 gallon of water) destroyed eelworm in Cucumber roots. This is a very simple preventive, or, if not too far gone, remedy. It is the latest of the experiments instituted, and proved effectual; it is also good for soil and plants, especially when used in conjunction with nitrate of soda and vitriolised bones. What a "plodding gardener" can want cheaper than kainit I do not know, the price being only about twice that of common salt, while it contains potash and magnesia, both useful foods for plants, which pay for application; yet if he *must* have a cheaper disinfectant let him scald the house, every part as hot as may be, then soak the soil with boiling hot water, not forgetting to use it about the bed, walls, or even paths, and no eelworm that gets a bath will give further trouble.—PHENYLE ADVISER.

— **PLEASURES OF GARDENING.**—The pleasures of gardening are proverbial. At the present advanced age, with the results of enlightened experience at our command and the aid of horticultural publications available, he must be dull indeed who does not find in gardening a source of pleasure. Furthermore, vocations are indeed rare in which pleasure and profit can be so completely combined as they can in the garden. We exhort everyone having any land at his command, whether it be a square rod in the rear of the city residence or an estate of acres, to give it attention, and have a good garden this coming season. It will not only be found a source of interest and pleasure, but it will be found a source of profit and health. The business man who spends his time in sedentary labour will find health and recreation in the garden. Why not get a part of your exercise in this way, away from the dangers and cares of the streets, and let the bicycle rest awhile? Where size of plot will permit there should be a space allotted to small fruits, such as Strawberries, Currants, and Raspberries. These will be found of easy cultivation, and fresh, luscious berries of our own raising will be much more desirable than the over-ripe, mashed-up products bought in the market. There are generally some out-of-the-way corners not accessible for general cultivation that will serve for the small fruits.—H. E. TWEED (in the "Rural World").

— **MEDICINAL ACTION OF VEGETABLES.**—Asparagus is a diuretic, and forms part of the cure for rheumatic patients at such health resorts as Aix-les-Bains. Sorrel is cooling, and forms the staple of that *soupe aux herbes* which a French lady will order for herself after a long and tiring journey. Carrots, as containing a quantity of sugar, are avoided by some people, while others complain of their being indigestible. With regard to the latter accusation, it may be remarked in passing that it is the yellow core of the Carrot that is difficult of digestion—the outer red layer is tender enough. In Savoy the peasants have recourse to an infusion of Carrots as a specific for jaundice. The large sweet Onion is very rich in those alkaline elements which counteract the poison of rheumatic gout. If slowly stewed in weak broth, and eaten with a little cayenne pepper, it will be found to be an admirable article of diet for patients of studious and sedentary habits. The stalks of Cauliflower have a similar value, only too often the stalk of the Cauliflower is so ill boiled and unpalatable that few persons would thank you for proposing to them to make so uninviting an article part of their meal. Turnips, in the same way, are often thought to be indigestible, and more suitable for cows and sheep than for delicate people; but here, too, the fault lies with the cook quite as much as with the root. The cook boils the Turnip badly, and then pours some butter over it, and the partaker of such a dish is sure to be the worse for it.

— **AN INTERESTING LAW CASE.**—In the Court of Queen's Bench on Friday last, before Mr. Justice Hawkins, was heard the case of Gardiner v. Knapp. The plaintiff was for some time Master of the Kingston-on-Thames Union Workhouse, and the defendant Editor and Publisher of the "Surrey Comet." The plaintiff was dismissed from his office as Master of the Workhouse last summer by the Guardians, and in removing had taken out wall trees, Apple trees, Rose bushes, and many other things, so that the "Comet" reported the garden as being a scene of desolation. This description constituted to some extent the libel which the plaintiff used for the purpose of a prosecution against the defendant. The evidence showed that on June 11th of last year, whilst the trees in question were in fruit and the Rose bushes full of growth, they were taken up from the Master's garden, placed at his disposal by the Guardians for his personal benefit and for the beautification of the Workhouse grounds, removed elsewhere, and, according to plaintiff's own evidence, sold; also, he removed all the plants from the greenhouse the Guardians had erected for him. Other matters were included in the libel, but no doubt these charges relating to the treatment of the garden were the chief. Professional evidence was in court on behalf of the defendant to show that trees and Rose bushes recklessly lifted at that time of the year if replanted could but die. Sir F. Lockwood, M.P., the defendant's counsel, however, felt it needless to call any witnesses, leaving the case in the hands of the jury, whose verdict was one farthing damages for the plaintiff.

— **KENNEDYA PROSTRATA MAJOR.**—Few twining greenhouse plants can surpass this showy species, which flowers very freely in March and April in a cool conservatory. It is the only really valuable and floriferous greenhouse climber among the Leguminosæ, and it deserves wide and general cultivation for its graceful habit and beautiful flowers. Like all Kennedyas, it is a perennial herbaceous twiner, a native of Australia, where the genus is indigenous. It differs from *K. prostrata* in having lighter coloured and larger flowers, in the more rounded and hairy leaflets, and in being profusely floriferous. The trifoliate leaves are very handsome, with roundish oblong wavy edged leaflets about 2 inches long. The slender stems often grow as long as 20 feet, and carry numerous axillary clusters of intensely deep scarlet flowers. All the green parts of the plant, stems, and branches, as well as the foliage and stipules, are very hairy. All the Kennedyas are readily propagated from seeds, which ripen in any moderately warm and sunny position. They should be sown as soon as ripe in a light compost, and may be grown out of doors during the first season. They grow very rapidly and require an abundant supply of water in the summer, but may be kept considerably drier in the winter. They are best planted out in prepared beds in sunny positions in the conservatory, where they can be trained on pillars and rafters, producing the most beautiful effect in the spring and early summer.—("Garden and Forest.")

HARTON CEMETERY, SOUTH SHIELDS.

FEW localities are more unfavourably situated horticulturally than that in which the town of South Shields stands. Within it such industries as coal mining, ship building, and the manufacture of chemicals daily charge the atmosphere with their noxious gases, which, with the close proximity of the town to the bleak north-east coast, render the pursuit of gardening, to say the least, disheartening.

Notwithstanding these drawbacks the neighbourhood can claim not a few followers of the ancient craft who attain almost phenomenal success. Foremost among these is Mr. Bernard Cowan, F.R.H.S., the able and respected Superintendent of Harton Cemetery, which is situated on the Sunderland Road. The enclosure is approached by a handsome stone archway, adjoining which is Mr. Cowan's residence. In front of the latter structure is a neatly designed flower garden, the beds of which are at present occupied with Hyacinths, Tulips, and Daffodils, peeping through groundworks of *Myosotis* and *Arabis*, while close by a bed of *Valeriana phu aurea*, intermixed with *Scilla sibirica*, is particularly attractive. Later on these beds will be filled with "carpet" plants, in which department of flower gardening Mr. Cowan excels. Along the broad, well kept avenues which stretch at right angles are planted thousands of Wallflowers, Stocks, and Carnations.

But the chief attractions to the horticultural mind are its rock gardens and herbaceous borders. Here almost every plant is grown that is worth growing, and each is neatly labelled, which to those on instruction bent is a liberal education in nomenclature. Space will not permit me to relate all that Mr. Cowan did to beautify the old cemetery at Westoe Lane, or of the many obstacles he had to surmount when he undertook the laying out of the new ground at Harton seven years ago, the soil of which even now in places wears a forbidding aspect. That he has succeeded each tree and plant abundantly testifies. In conclusion, I can only say that I came away with feelings akin to envy that I did not possess some of the good things that Mr. Cowan has gathered together at Harton.—T. R.

THE NATIONAL AURICULA SOCIETY.

(SOUTHERN SECTION.)

WE have the high classical authority of Mrs. Malaprop for saying "that caparisons are odorous," and therefore I forbear from comparing the exhibition of Tuesday, 21st inst., with its predecessors, for it is of course very difficult to carry one's mind back to the details of even a few years ago, but I think we may safely say that, whether as regards quantity or quality, this was an excellent show.

Yet there were circumstances which made one tremble beforehand. Most Auricula growers have heard of the terrible calamity which had overtaken our champion southern grower, Mr. T. E. Henwood. His collection was, probably, the most select in the South of England. It contained not a great many varieties, but a number of plants of some of the very best; and last year it will be recollected he carried all before him, while this year he did not even put in an appearance for the best twelve. The fact being that in May of last year when he was repotting he found a quantity of woolly aphis on the roots. In order to get rid of this pest he sent his man to get some softsoap, of which he made a solution, dipped his plants, and repotted them. Finding that they made no way he turned up one of the pots, and found the roots completely black, on seeing which his man exclaimed, "Why, master, they are paralysed!" and probably no better description could be given of them. He could only account for this by the fact that his man instead of going to the chemist had gone to a drug store, and obtained some crude softsoap, such as painters use, and owing to this he lost nearly 400 plants.

Now anyone who knows what Auriculas are and the difficulty of increasing them will be able to estimate the force of this blow, which, as I heard a lady say on its being recounted to her, "It is enough to break one's heart." Still he has a few left, and carried off the first prize for the best six. This misfortune brought to my remembrance a somewhat similar one to myself many years ago, when on returning home from a short absence I found that the old man who had charge of my small garden had kept the frames tightly closed and my plants were all withered, which he ascribed to some maggot! Another reason why one might have doubted what the character of the show would be was the fact that Mr. Ben Simonite had had his Auriculas so crippled by a couple of days of severe weather, which had also brought with it the pestilential air of Sheffield, so injuring his blooms that he had nothing to bring up; yet notwithstanding these two defections there were seven exhibits in the class for twelves. Here the Rev. F. D. Horner carried off the first prize. These were all his own seedlings, and it is a proof of the excellence of his strain that he was able to out-top all the best leading varieties. Mr. Henwood occupied the same place in the class of sixes, and one of the plants, Mrs. Henwood, claimed the premier prize for the best Auricula in the show. I think that green edges on the whole were remarkably well shown, though a few of the best kinds, such as Prince of Greens, were but scantily represented. Grey edges on the other hand were weak, and that finest of all, George Lightbody, was not exhibited at all as it used to be; indeed, the highest authority perhaps in Auricula growing, Mr. Horner, says that he cannot grow this or Lancashire Hero as he used to do. White edges were tolerably good; notwithstanding the many new ones that have claimed attention Reed's Acme took nearly all the prizes for single plants in the white edged class.

In the same way in selfs, there are two varieties against which when they are in good form no other variety is able to contend, I mean Heroine and Mrs. Potts (of the latter, out of the seventeen plants exhibited fourteen were of this variety). They are both beautiful flowers, but the latter has a bad habit. Its flower stem is very long and weak, and the flower stalks, which compose the truss, are of the same character, and consequently instead of the truss being compact it straggles about in all directions. The colour of the flower is lovely, and it is a great pity that this habit detracts so much from its value. I have again to notice how very useful are the flowers raised and sent out by the late Mr. Woodhead, and it must be a source of great pleasure to his good sister that they still hold so high a position, for in most stands one or other of his flowers found a place, and no grower would, I think, care to do without Geo. Rudd, Rachel, Mrs. Dodwell, and Black Bess.

Although I am a very rigid old florist I cannot without injustice pass over the varieties of what are called Fancy Auriculas. They are curious and quaint, and I think they must bring one back to the times when the Dutch grew them, and when some of their quaint forms figured in the pictures of the old Dutch flower painters.

There will always be, of course, a certain amount of interest attaching to seedlings, though there is little chance of anyone except the raiser seeing any of them for many a long year to come. There are some which are of vigorous constitution and increase

freely, one of these is the Rev. F. D. Horner, and this accounts I think in some degree for its being so often exhibited. A stock of it may soon be obtained, while of such varieties as Prince of Greens you may wait for years before you get offsets. It is well known that selfs more readily increase than the edge varieties, but not all. Thus Mr. Horner told me that that fine dark self Melanie raised by him in 1886 has increased so slowly that even now, after eleven years, he has only got two blooming plants; and that fine white edge Magpie, raised by him some years ago, is not yet I believe in commerce. Yet with all that fanciers like to know what new varieties there are, even though, like the Grapes in the fable, they are very sour.

There can be no question of the excellence of Mrs. Henwood (No. 1, fig. 66), which, as I have said, obtained the premier prize for the best bloom in the show. It is a green edge of surpassing excellence; was raised by the late Mr. Barlow from a pod of seed sent him by Mr. Horner; all the parts of the flower are well proportioned, the body colour is regular, and the paste solid; the constitution also appears to be good. It was shown first by Mr. Henwood in 1890, and obtained first prize as a seedling, and also a first-class certificate. At the Westminster Aquarium show in the same year he exhibited it in his stand of twelve; it took the first prize, and was again awarded a first-class certificate. It will be thus seen that it has obtained two first-class certificates, one premier prize, one first prize, and been in two first prize stands. Another fine green edge is Shirley Hibberd (Simonite); it is a first-class flower of high promise, and the habit is strong. Dolphin (Horner) is also hopeful; it seems to be a first-rate flower, and we must only hope in future years to see it fulfilling its early promise. I think perhaps one of the most promising of Mr. Horner's seedlings is the Rev. Cecil Dalton; the edge a vivid green, body colour intense black, the paste solid, and the tube deep yellow.

Dinham is a large grey edge raised by Miss Penson at Ludlow, but I fear inclined to exhibit that fatal defect in the eyes of a true fancier—coarseness. As in Roses, we have no objection to size in Auriculas provided they are not coarse; but it is very difficult to get the one without the other. Lustre (Horner), on the other hand, is a fine flower, well proportioned and by no means coarse. There was a very fine self exhibited by Mr. Horner under the name of Midnight (No. 2, fig. 66), very dark, deep maroon almost black, very smooth and bold looking flower. This may well take the place among dark selfs as Heroine has done amongst the purples. It is as dark as Black Bess, but smoother on the edges. The other seedlings exhibited by Mr. Horner will, I have no doubt, be brought forward again.

Although I have limited my observations to the classes which I know best and most prize, I am not insensible to the beauties of others, and certainly the Alpine section has attained to a great degree of excellence, while the greater ease with which they are cultivated must render them grateful to those who do not care to take all the trouble involved in the cultivation of the Show section. By-the-by, we may ask with wonder who writes the horticultural notices for the "Times." Here is what is said on Wednesday last about Auriculas, "These flowers are grown with but little trouble; they do not occupy much room, are not liable to many ailments, and are not exacting as regards pureness of air, so that they can be cultivated with much success even in or near towns."

One feature of the Auricula show is that we meet growers from different parts of the country, and are able to compare notes and have "a crack" over our favourites, and I do not think we shall get anyone to agree with the statement that they are grown without much trouble. One was glad to see our northern champion as enthusiastic as ever, and taking as great delight in his favourites as he has ever done, and were only sorry that he was not as heretofore accompanied by good Ben Simonite. Altogether it is pleasant to us to find that this refined and beautiful flower increases in the estimation of horticulturists in the South of England.—D., Deal.

[To the two varieties figured and appreciatively referred to by the veteran amateur we add a third one of Mr. James Douglas's bold and brilliant crimson and gold Alpine, Dean Hole (No. 3, fig. 66), which was much admired by many visitors at the show.]

YOUNG GARDENERS.

THEIR HOURS AND HABITATIONS.

SINCE penning my former notes on the above subject, which everyone will admit is one of considerable importance, I have studied with interest the opinions offered by various writers on the half holiday question for young gardeners, and in summing up have come to the conclusion that instead of treating the matter from a general point of view it has, for the most part, been looked at somewhat one-sidedly, and only from the aspect in which gardeners see it in their own particular establishment. This seems hardly fair when treating with a question of such magnitude,

and dealing as it does with thousands of workers the majority, if not the whole of whom, would be greatly benefited by the Saturday half-holiday.

In looking through the annals of any great social reform that has taken place, and rendered its assistance in making our country the envy of the civilised world, do we not find a certain per-centage of the population who have, directly speaking, received no apparent benefit from that said reform? Yet no one is rash enough to say that such a measure was unnecessary, because everyone knows full well that the majority of the community has profited by it—hence the justice of it. We all know the old fable of the man who endeavoured to please everybody, and the fearful muddle he found himself in at the finish. The contention then is, that in the majority of establishments the half holiday for gardeners is practical and would prove beneficial, this being sufficient reason for its more general adoption.

interests are affected that any alteration in the working hours in one department would have to be followed in others." And why not? Surely he would not confine its benefits to the under gardeners alone, as the labourers claim an equal right. For the most part they have gardens, allotments, or small holdings of their own, with no time but the evening in which to do the necessary work on them; thus life becomes one long monotonous round of labour. It is not necessary to add how much the few hours on Saturday afternoon would be appreciated in such cases.

"S." states further that the arrangements adopted work admirably, but was withdrawn owing to the tenant farmers on the estate complaining that their workmen were dissatisfied. But this I will pass over with the remark that it sounds very much like coercion, and hardly worthy of our age. "S.'s" method of paying for overtime is a matter for consideration, as it might lead to doing away with payment in case of



FIG. 66.—AURICULAS: 1, MRS. HENWOOD, GREEN EDGE; 2, MIDNIGHT, SELF; 3, DEAN HOLE, ALPINE.

Mr. Bardney, in opening the controversy on page 122, asserts that after giving the Saturday half holiday system a fair trial he is fully satisfied with the experiment, finding that the work is done as thoroughly as was the case hitherto. This is gratifying, because if the employer is satisfied with it there is no need to make inquiries respecting the employed.

"T. B., Leeds," on page 167, commences well by expressing his satisfaction at Mr. Bardney's plea for shorter hours, in which he appears to agree with him, but further on he emphatically states that the Saturday half holiday would be impossible in the establishment of which, I presume, he is the head. "T. B." does not add whether the experiment has been tried, and here we note a weak point in his argument, as my experience of young gardeners tells me that they would not be found wanting in the extra spurt necessary to complete the work at one o'clock instead of four. After all, "T. B.," two hours is not much to argue about, as I presume the men have the usual dinner hour on Saturdays.

"S., Yorks," on page 210, while being in favour of the half holiday appears to fear its practicability, because "on large estates so many

sickness or holidays. He further fears there will be no material improvements made until the "stigma" of being termed a domestic servant is removed from gardeners. But why use that term, "S.?" as I fail to see where the "stigma" comes in, for surely all honest labour is honourable, and so long as our living is fairly earned there can be no "stigma" about the term "domestic," and certainly it is no argument against the gardener's half holiday, the case differing entirely from that of the housemaid or groom.

Mr. D. Brough, on the same page, says that "in many places circumstances and location make it such that the Saturday half holiday is not the best method to adopt for the interest and convenience of the men." Well, perhaps not in his case, where "each man can have a day off whenever he wishes it." Lucky are the men in that establishment, and I should say contented beyond doubt, as I look back on the time when I used to approach my chief with fear and trembling for the proverbial day off "when I wished it," and, alas! generally had to be content by having it if "he wished it." Mr. Brough's system cannot fail to be satisfactory under the circumstances, but it in no degree weakens the

argument for the weekly half holiday, as the project is intended for the benefit of the majority. And even admitting the privileges offered to Mr. Brough's men, they have to be asked for, as a favour. The half holiday should not be granted as a privilege entirely, but something to which men feel they have a right—a right, of course, duly admitted by employers and respected by employed, which would result in mutual benefit rather than otherwise. It should therefore be with this feeling, and the worthy end in view, that the subject is approached.

I was glad to see the "Old Boy" had something to say in the matter, as there is always much that is fresh and invigorating about what flows from his pen, and if I mistake not is of opinion that the last half-day of the week is of but little value so far as work is concerned, and an extra spurt would be put on earlier in the day in anticipation of the half holiday. Here I fully agree with him, and rightly or wrongly am of opinion that in the majority of establishments Saturday afternoon is chiefly spent in the men waiting for four o'clock, or whatever hour the work ceases.

I wish the "Old Boy" had unfolded a few of his startling tales, which, delivered in that very readable language peculiarly his own, would have interested instead of startled not only the youngsters, but some of the oldsters also. The "Old Boy's" arguments, however, are throughout in favour of the movement, though, he like many others of similar opinions, entertains grave doubts respecting its institution. Here, however, is a suggestion. We have been hearing a good deal lately about some proposed alterations to be made by the Council of the Royal Horticultural Society; could not a beneficial start be made by closing work at the Chiswick Gardens at one o'clock on Saturdays, instead of half-past five, which I believe is the time at present? The employees would no doubt appreciate it, and our premier Society would, at any rate, be setting a good example for the proprietors of other gardens to follow.

In commencing it was my intention to say something more about habitations, but as all appear to be agreed that, though much has been done in this direction, there still remains ample room for further improvements. I should like to have seen some remarks from the bothies themselves on this question, which affects them so directly. Should the desired state of things become general in the future it will add much to benefit the gardener, both head and under, without in any marked degree affecting the interest of the employer.—G. H. H.

THE notes which have appeared in your columns during the last few weeks, under the above heading, have been most interesting to many young gardeners, and I know have been read by many of my colleagues who are anxious to see this half holiday become general. Your correspondent, "An Old Boy," alludes to the farm and forester's men. It would, indeed, be very unfair to exclude them from this privilege; again, we must not shut out estate tradesmen and stablemen. If granted to one department, I say grant it to all.

The worthy and kind hearted head, under whom it has been my good fortune to serve for several years, has told me he would not stand in the way of such a measure, though to me it does not require any words of his to understand his views on the subject. There exist few places where the young men are more kindly and liberally dealt with than are those employed on the estate.

Through the kindness of our worthy squire cricket matches were played here almost every Saturday afternoon last summer (though not actually a holiday) with neighbouring teams, who always consider it a great privilege and pleasure to play on our beautiful and well kept ground, situated in front of the hall. The work under the above circumstances, at least as far as I could see, never suffered in the least. I think that whether there are one or two responsible for Sunday duty, they should take Saturday afternoon, then the work left undone by those who go away can readily and easily be accomplished by them; they knowing that their turn to be off will come in due course. I do not like the idea of having the Saturday half holiday, and then be expected to bring up arrears of work on the Sunday morning.

But in my opinion the work, taking it in the aggregate, would not suffer in the least through the change proposed, and the master would find that any young man who takes sufficient interest in his duties would not hesitate to assist an hour or two extra with thinning Grapes, tying and staking, or other pressing work, and that without extra pay. To the married men the half day would come as a great boon now that allotments are so numerous, especially where men have a mile or two to walk to work, to say little of the advantage it would be in out-of-the-way districts in getting to a market town. I am now speaking from actual facts. I concur with "S., Yorks," that the "head of affairs" in many instances is NOT to blame for the hours which gardeners have to work.

The working hours in the gardens from whence I write are 6.30 to 5.30, and four o'clock on Saturdays. There are two men on duty each Sunday, one taking night duty the whole of the week one week in three; the youngest in the bothy, not taking night duty, does the day firing. With respect to the bothy, in which there are five, I am glad to say that we have many comforts for which we ought to feel deeply thankful.

Referring back to the able note of Mr. Bardney respecting the extra work entailed by an "enthusiastic" gardener who may be preparing for coming exhibitions, it must be admitted that with such a man as this the young assistant must be benefited in no small measure if he pay attention to it; and I can conscientiously say were I so situated it would be a great pleasure to me to assist in every possible way that I could, especially if I thought our labour would be rewarded by taking a front position in the competition.—SUBORDINATE.



THE WORKSOP ROSE AND HORTICULTURAL SOCIETY.

It will be remembered that this active Society a few weeks ago changed the date of the show from July 9th to July 30th. We learn that it is now changed back to the 9th again, and is expected to remain there, weather permitting.

THE GEORGE PRINCE MEMORIAL PRIZE FUND.

THE following additional donations are announced:—Edgar Hanbury, Esq., £1 1s.; Messrs. Alex. Dicksons & Sons, £1 1s.; R. G. N. Baker, Esq., £1 1s.; O. G. Orpen, Esq., £1 1s.; Messrs. H. and A. Turner, £1 1s.; A. Hill Gray, Esq., £2 2s.—D., Deal.

THE BANKSIAN ROSE.

I NOTICED recently when passing through the Birmingham Market Hall upon the florists' stalls sprays 5 and 6 feet long of this charming old-fashioned Rose. It occurred to me how admirably they were adapted, furnished as they were with the miniature pale yellow blossoms and elegant green coloured foliage, for "shower" bouquet and other similar decorative purposes, and with an effect far more natural than the tied-on flowers produce—excepting, however, that possibly the "sprays" in question might be considered as somewhat too stiff in comparison with such as Smilax and Asparagus. But used judiciously with an intermixture of the latter this slight disability might be readily overcome.

I may add that ever since I first saw the white and the yellow Banksian Roses growing on the old garden walls, nearly fifty years ago, at Penrhyn Castle I have ever cherished a fond recollection of their pretty and unique racemes of inflorescence, and it seems to me a pity that a warm and sheltered site is required.—W. G.

MARÉCHAL NIEL V. PERLE DES JARDINS.

MANY are the eccentricities of our pets, and therefore comparisons are not always easy even if odorous, as Mrs. Malaprop puts it. Possibly the old lady was quite correct when it comes to flowers, as it does in this instance.

Am I wrong in thinking that as fine blooms of Maréchal Niel are not seen nowadays as in the days of its earlier introduction? Grown under glass, it so frequently lacks the glorious colour, and puts on mildew with the slightest provocation; and yet it needs a sort of protection out of doors, where in favoured positions it is generally in its best form, and let the word "form" here include every beauty that this grand Rose can attain. Judging from my own experience, by no means large, I should have said that it was far harder than climbing Perle des Jardins.

Having very little wall for Roses, I in 1894 put one strong plant of the "garden jewel" against a wall facing south-east. On the other side of the doorway was a Maréchal Niel that had been planted the year before and had had a battle for life, so much so that I hesitated about its retention; however, it held on, and weathered the severe outburst of the early part of 1895 fairly well. Not so, alas! did the Perle; that succumbed root and branch, so in the autumn of 1895 I tried again with a very strong looking plant from our departed friend at Oxford. It cannot be said that this winter has been unkind to us; but greatly to my dismay all the long shoots of the Perle looked decidedly poorly, and I have been cutting back with a still persisting shrinking which does not augur very well for the future, one or two of the shoots being absolutely dead down to their origin. On the other hand, the Maréchal Niel has good buds on, much larger than horse beans. Of course, my experience would lead me to say that Perle des Jardins (climbing) was not so robust as the old soldier.

Maréchal Niel distinctly requires some slight protection, not from cold, but from wet; as I some years ago pointed out, the peculiar formation of the seed pod, if I may so call it, so different as far as I know to most Roses, accounts for this necessity. In most Roses the rise from stem to the seed pod is gradual and even, in Maréchal it is abrupt; moreover the stem appears inserted into a pit in the pod, at any rate there is a fosse or ditch all round the stem. Then the weight of all the large blooms is great, and very few, except perhaps in the luxuriant autumn growth terminating in a truss of bloom, can continue erect, but gradually as the weight increases they bend low their glorious heads, and so hang downwards; here then is a pit round the stem formed ready to receive moisture, whether from dew or rain, and to retain it much longer than is useful. This I believe to be the cause of the decay that so often occurs in the Maréchal, and which is often most discouraging. A good tree out of doors would pay to be covered by tiffany, and probably would be improved in colour too. I have also found a 12-inch board above the tree save many of the blooms.

If the climbing Perle des Jardins has less of the quartering that so often mars the beauty of its parent that would greatly add to the value of the sport, but when both Perle and Maréchal are at their best, can there be any question which is the grander Rose? Very rarely does the Maréchal figure as the best Tea Rose in an exhibition, but then

it must be remembered that when the Rose exhibition season is on the best blooms of that grand Rose are things of the past, a dream of memory.

I would back up all that Mr. Williamson says in favour of Marie Van Houtte. Take it for all in all I am almost disposed to say it is the most valuable of all the Teas, robust, free growing, good foliage, free flowering, and exquisite in form, colour, and all requisites.—Y. B. A. Z.

ROSE GROWING.

(Continued from page 374.)

Pot Roses.—In respect of Tea Roses, I am rather in favour of buying them in pots in the spring and turning them out about June, or when the cold days of May are over. The same may be done with H.P.'s, and a new Rose bed thus formed even in the height of the summer. But then constant and plentiful watering will be required, otherwise fatal consequences may very probably ensue, and many other plants will then be clamouring for water also. A good gardener will know how to adapt himself to varying circumstances.

"The mouse, that only boasts of one poor hole,
Can never be a mouse of any soul."

Pruning.—And now we will suppose that winter has been got through, and pruning time has arrived. It is an anxious time for exhibitors, searching out what the ravages of the season have been, and others can hardly view half their Roses gone with equanimity. But we will suppose that the frosts have been moderate, and are at last nearly over, and that the time has come for taking stock in the rosery. Only pruning will disclose what the state of things really is, and it is sometimes terribly necessary to keep on cutting down lower and lower. It is fatal to leave any branch with discoloured pith. I am an advocate under such circumstances for very hard pruning. I suppose there is nothing shocks the inexperienced more than this.

Some of my friends in Surrey never could or would believe that standards pruned into something like the round tops of walking sticks, and bushes sliced off absolutely level with the ground, would ever be likely to revive again, much less to yield good exhibition blooms, which I was able practically to show them is the case; whereas if long frost-bitten branches are left on anywhere, how deplorable the sight is when they attempt to bloom.

My rule has always been, weather permitting, to prune H.P.'s in the last week in February, and Teas somewhere about the last week in March. This may be considered early pruning, but where buds have not started a frost or two does not signify, and late pruning risks bleeding, that dripping of the sap from the wounded place, which is very weakening. But in this, as in most else, it will be found that a pinch of practice is worth considerably more than even a pound of theory.

Briars.—Perhaps the race of Briars, notably the Persian and Austrian, are the most difficult of all to deal with in respect of this matter. They bloom entirely on the new wood. If you do not prune them pretty hard, they make no new wood; if you do, they give no blooms. It is something like

"The rule of the road, 'tis a paradox quite,
Whether riding or driving along;
If you go to the left you will go to the right,
If you go to the right you go wrong!"

"And so it's the best, someone has suggested,
To keep straight along!"

In the case of Briars, Mr. Rivers suggests that "it's the best" to have two sets of plants, and prune on alternate years; but perhaps that is rather a nurseryman's way of looking at it.

Pegging Down.—A fashion of late has come in of pegging down. This is excellent where disbudding is not resorted to, and exhibition blooms are not required. Thus a bed of strongly grown H.P.'s or Dijon Teas will have their strongest branches bent over and pegged down for their full length, all the rest of the branches being pruned very close. In this way every shoot on each long branch should give a bloom, and the long array of upright trusses is often very effective. There is a fine single Crimson Rambler in a Reading garden trained in the shape of a crown royal, and treated after this fashion. Our Reading Rose poet here supplies us with an aphorism.

"He who prunes his Roses on a fence,
Will only get cuttings for recompence;
He, who prunes with hurried haste,
Must not expect his blooms well placed."

The Use of the Knife.—In one instance I object almost entirely to any use of the knife, and that is in the case of climbing Roses. These should never be cut back. Dare I say it? I think gardeners, like some doctors, are too fond of the knife. "Spare the knife, or you spoil the plant" is my rule with most creepers. Speaking generally, of course, vigorous growth should be pruned moderately, or it may result in nothing but new wood, whilst moderate growth will bear cutting harder; but the long shoots of creepers, I maintain, though I am aware some excellent gardeners think otherwise, are best let alone altogether. Cut away all weak and twiggy wood, if you will, but never stop back a long shoot; if it be too long for its place, why, then, bend it over, and this will very likely give you a bloom at each bud.

I have sometimes been almost broken hearted on being shown some

grand old Gloire de Dijon or Devoniensis, which might have covered a house, now sprawling along a side wall, hacked almost out of recognition. "Good man spare that plant" should be the label attached to all climbing Roses.

Under Glass.—Never cut back climbing Roses—except under glass. There I am out of my depth. I lay down no law. I believe Maréchal Niel may be made to bloom all along a 20-foot shoot in a house, then cut back to three or four eyes, then made to produce two or three equally long shoots, and bloom on these the next season, and so with climbing Niphetos and others; but I have never myself had the courage to try. I have never quite mastered Rose culture under glass. I think I will imitate the old Scottish minister: "My brethren," he said, "this is a knotty point, we will look it in the face—and pass on."

Propagating.—I will speak first about raising from seeds. This might be done much more than it is, and with good hope of new varieties, if only ripe hips were collected in autumn, sown where the ground need not be disturbed for some three or four years, and watched over with intelligent solicitude. Of course this is trusting to chance propagation, but that is what the earlier Rose growers did, and with great success. This is sternly discountenanced by our Reading Rose poet—

"He who sows by chance, and not by pedigree,
Must not expect the blue Rose that the world would see."

The process of hybridising does not appear to be difficult; I suppose it is effected by carrying the pollen much as the bee does. The absolute theory appears to be this: The anther, the male organ, produces the pollen powder. This, being mixed with honey, attracts the bees. These pass from the anthers with pollen on them to the stigma, the female organ. If this is in a receptive condition when the bee arrives, fertilisation takes place, and a hip is formed. Where a flower has both anther and stigma, self-fertilisation is the more frequent occurrence, which, of course, can give us nothing new. But sometimes the bee, or even the wind, anticipates, and then there is hope. Where fertilisation is done by hand and under glass the chances of success are very considerably increased, and a good deal of this has latterly been done in England. In bygone days, I suppose by far the greater part of our famous French Roses were happy chances, so also that excellent Cheshunt strain, notably the Duke of Edinburgh. Cheshunt Hybrid was a new departure, and began the Hybrid Tea class. Bennett declared that all his were pedigree Roses, and very excellent ones he gave us, although some at first were failures, but Mrs. J. Laing and Her Majesty, and T. Princess of Wales can hold their own against anything. In Ireland the Dicksons of Newtownards of late have quite come to the front. Their Jeannie and Margaret Dickson are amongst our best H.P.'s, Mrs. W. J. Grant is a high-class H.T., and Ethel Brownlow a good exhibition Tea.

Also Lord Penzance has been active and successful. His experiments amongst the Sweet Briar have given us some very charming varieties, amongst which, not their least virtue being their sensible Walter Scott names. Rose Bradwardine is a lovely rose, and Meg Merrilies a very good crimson. Unhappily it is not possible to put back the clock; as Scott says somewhere,

"That which moulders hemp and steel,
Mortal arm and nerve must feel."

"In my eightieth year," writes Lord Penzance, "the needful energy begins to fail. I have continued my labours every season up to the present (1895)." He has even been attempting, he tells us ("Rosarian Year Book," 1896), the two great Rose problems, Why not a yellow H.P.? Why not a blue Rose? "As the possible parents of a yellow Rose," he continues, "nothing presented itself so naturally as the yellow Briar. I collected a quantity of the pollen of these Roses and operated on the pollen of several H.P.'s, notably Général Jacqueminot and Jean Chérpin. I obtained abundance of hips and in due time plenty of seed, abundance also of plants, but so far no results. One plant, indeed, about three or four years ago, did give signs of the Briar parentage, and the flower presented a very pretty mixture of crimson and yellow, but it was very shapeless and turned out almost impossible to propagate. In the blue Rose I collected the pollen of a Hungarian Rose, 'Erinnerung an Brod.' I had no difficulty in obtaining plants from the pollen of this Rose with several of the H.P.'s, but none has yet bloomed (1895), and I cannot trace in growth or foliage any distinct evidence that the qualities of pollen parent are represented in the progeny."

We have also in our midst one of the greatest authorities on hybridisation and the successful operator perhaps in the world, and may look for great things should he ever find time to take up Roses in earnest. Lord Penzance, it is true, tells us he has a vast number of seedlings only fit to be thrown away, but that is, of course, the experience of all operators. It is only in rare instances that they say, "I will have that one kept." There is more choice amongst kittens, though even that is limited.

Another principle is one that has been carried even further. The other day a boy of ten, the son of a friend of mine, who had been brought home from school to see his twin sisters christened, when the service was over and the babies were being brought into the room to be admired, regarded the first with much interest; but when another nurse arrived with the other he turned very red, and inquired rather anxiously, "Will they kill that one?" and was much relieved by being informed it had been decided to keep both!—ALAN CHEALES.

(To be continued.)



THE FRENCH N.C.S.

WE understand that Mr. Harman Payne has made a proposition that this newly formed Society, which counts among its members every French grower of repute, should adopt a system of registration of the names of new seedlings in order to avoid the oft-recurring annoyance to English purchasers of finding some of the season's novelties bearing names already in use. The proposition was laid before the last general meeting of the Society, and was recognised as a very useful one, and likely to render great service. The General Committee will endeavour to find a member who will be willing to undertake the work of keeping the register. We trust that there will be little difficulty in this.

NATIONAL CHRYSANTHEMUM SOCIETY.

IN turning over some old papers connected with this Society I have found a few old schedules and balance-sheets, the perusal of which affords a striking contrast to those issued nowadays. In 1874 the Society's name appears to have been the Stoke Newington and Hackney Chrysanthemum Society. The roll of membership was fifty-seven, and the total income for the year £106 1s. 2d. In the following year the title is Borough of Hackney Chrysanthemum Society; the membership had increased to sixty-seven, but the receipts amounted only to £95 3s. 10d. In 1876 there were seventy members, but this increased number does not appear to have helped the funds, for the revenue amounted to £90 8s. 2d., and left a deficit of £4 11s. 1d. due to the Secretary; 1877 was the year in which the Society removed to the Aquarium. There appears to have been but fifty-five members, and the income seems to have sunk lower than before, for the amount as set forth in the balance-sheet for that year is £84 14s. 6d. Up to this point the schedules were four-paged leaflets, and the balance-sheets were issued separately. In 1879, however, the records of the previous year are included in an eight-paged schedule. There were, we find, seventy-two members in 1878, and an income amounting to £124 3s. 1d. Further increase is observable in 1879, and since that date there has probably been no going back. It was not until 1882 that the roll of membership touched the "century," and in that year we find they number 104. It was, as all the world knows, in 1884 that the title National Chrysanthemum Society was adopted. At the end of the first year of its existence on the broader basis there were 239 members, and income received amounting to upwards of £300. Since then, what changes! what progress! The advocates of the "National" title have long since had their aspirations more than justified.

A NEW ZEALAND MEMORIAL CUP.

THE Committee of the Christchurch (N.Z.) Chrysanthemum Society have, like our own N.C.S., instituted a memorial challenge cup in memory of a deceased official. J. G. Blyth, Esq., M.A., LL.B., was formerly a Vice-President of the Society, but died in 1894. He was an enthusiastic Chrysanthemum grower, careful about the finer points of culture, and was very successful as an exhibitor. Being much loved by all who knew him, the Society had the memorial cup made with a suitable inscription to perpetuate his memory. The cup is not competed for in a class by itself, but is awarded to the stand of cut blooms in competition scoring the highest number of points. It carries with it a money prize of £2 2s., in addition to any other prize the stand may win, and is held by the winner for twelve months.

MR. W. H. LEES.

HONOUR to whom honour is due. The fame of this very successful exhibitor last season is by no means confined to his own country. His achievements have evoked feelings of surprise both far and near, but more particularly perhaps in New Zealand, where the growers follow very keenly all that is being done in Chrysanthemum matters here in England. By the last New Zealand mail I received two letters from different parts of the Colony, and in one of them the writer adds a postscript, saying, "What success W. H. Lees has met with this year!" The other writer exclaims, "What a splendid series of triumphs Mr. W. H. Lees met with! He seems a second E. Molynceux."

Mr. Lees and his friends will, I am sure, be pleased at these two testimonies to his ability as a successful competitor, especially coming from Great Britain over the Sea.—P.

CAMBRIDGE CHRYSANTHEMUM SOCIETY, NEW ZEALAND.

MR. M. McDERMOTT, Honorary Secretary of this enterprising Society, writes under date of March 19th:—"In one of your issues last year there was a notice *re* our Society which was highly gratifying to our Committee, and to let you see we are as energetic as ever I have pleasure in sending you our schedule, children's section schedule, and a paper containing a marked notice of one of our annual 'talks' *re* mums. For a society of not more than 100 members we issue a very fair catalogue. We are the only society this side of the line giving an N.C.S. silver-gilt medal, and I can assure you it is much valued.

"*Re* the children's section schedule. From this you will see it is quite a big thing. We send these circulars to about sixty schools, and our endeavour is to interest the young people in the culture of flowers generally and the 'mums' specially. It will be easily seen this section entails a great deal of work, but it gives pleasure to those looking after it, and is greatly appreciated by the public. We notice, too, that there is much improvement in the style of bouquets—a better artistic arrangement of the blooms and more refinement in the display.

"*Re* the paper paragraph concerning the 'talk' (see below). These 'mum talks' are a great institution with our Society, and over and above bringing members into a more sociable relation with one another, help to afford a deal of information to young growers as others. The one just held took place about the time it was necessary to 'take' the buds, and was the means of imparting much valuable information on that very important subject. These have been held annually at Mr. Wells', our President, home and grounds, and the thanks of all our members are due to him for his kindness and hospitality. Our show takes place in April, and I will send you particulars."

CHRYSANTHEMUM TALK.

REFERRING to the above the "Waikato Advocate" says, "A number of ladies and gentlemen, members of the Chrysanthemum Society, assembled, by the kind invitation of Mr. and Mrs. Wells, at Oakleigh, New Zealand, for the purpose of indulging in the annual informal 'talk' about the popular autumn flower, its selection and production. The discussion, which was opened by Mr. Wells, became general, and much useful information was mutually elicited in a very pleasant way. The discursive nature of the discussion precludes the possibility of reproducing it in these columns, and those members of the Society who were unavoidably absent, as well as all who feel an interest in Chrysanthemums, should, if they desire the latest information, consult Mr. Wells or some other member of the Committee. While the 'talk' was in progress the visitors were served with a banquet, which took the modest name of 'afternoon tea,' and subsequently all present adjourned to the grounds, where Mr. Wells' plants were inspected. These 'talks' are certainly not the least agreeable feature of the Society, and Mr. and Mrs. Wells deserve the warm thanks of the members for having so thoughtfully instituted them."

[Such letters as that of Mr. McDermott cannot be of other than great interest to all of us here, as proving the enthusiasm displayed by our colonial brethren in relation to the Chrysanthemum. The annual "talks" must be productive of good, and might advantageously be widely adopted, though, of course, every mum grower is not a Mr. Wells. The scheme of offering prizes to the rising members of the community is not, as everyone knows, a new one, but it is none the less worthy of the warmest commendation. It must tend to do good, and thanks are due to those growers who find such pleasure in giving pleasure, while at the same time imparting knowledge.

Exclusive of the children's section forty-five classes are scheduled, these being divided between open, gardeners and nurserymen, amateurs, ladies, and other sections. The prizes are not large, but sufficiently good to encourage growers who love the flowers to strive to win one or more of them. The annual show mentioned above was held on April 24th and 25th, and we trust some of our friends will ere now have posted to us a descriptive report. Progress should be the motto of the New Zealand Cambridge Chrysanthemum Society.]

FRUIT PROSPECTS.

WE are passing through the Blackthorn winter, the only one we have had this year, safely; and unless May proves harsher and harder than April, our promising fruit crops are likely to carry full crops safely through until harvest.

Peaches, Nectarines, Apricots have set extraordinarily fine crops, and their natural protection of fast growing shootlets hugging the fruitlets, with the extra netting or canvas, have so far kept them safe; if, in fact, they have ever been in any danger through this winterless winter.

Pears, Plums, and Cherries are having a neck and neck race for precedence in the time of blooming. In some places Pears have the lead, in others Cherries, and in yet others Plums, all three being in special danger through the latter half of April and the first two weeks of May. The trees are smothered with bloom, and are exceptionally clean.

The cold snap of April weather, which I have called the Blackthorn winter, has rendered these and our other fruit trees a distinct service, by placing the hard bit of forcible restraint on their impulsive life. Apples especially are less out of season than the other fruits named. This, the main fruit crop of the year for the toiling millions, has seldom or never looked more promising. The work of planting new orchards, and the renovation of old orchards, also proceeds, though less rapidly than could be desired. But in many, most directions, there is movement—progress. The Chairman of a leading County Council wrote the other day to say that on all sides there was abundant evidence that the lessons on improved culture had not been forgotten, and were constantly cropping up in the planting of new orchards and the improvement of old ones.

The mild winter and spring so far have proved most favourable to the old trees root-pruned or transplanted bodily last November. I visited such a one last week, and the trees were blooming and growing as usual. As the owner expressed it with pleased surprise, "They had never looked behind them." The spring has been equally favourable for the heading back of old and worthless trees, and the utilisation of

their root force by the finest varieties that experience shows can be grown in the locality, for many districts a competence if not a fortune may be earned by this simple diversion of living force into more profitable channels.—D. T. F.

IN the midlands fruit prospects are of the most promising description. Apple trees which bore a full crop last year are flowering profusely this time; Cherries are literally wreaths of blossom, so are Pears and Plums; Apricots are thinned; Peaches on the open walls have been covered, and bees have done their part, for they were busy enough on them; Gooseberry and Currant bushes are full, and Currants on walls are many of them more than half grown. The frost on Thursday and Friday last has certainly affected some trees and bushes, and some of the neighbours, whose bushes are fully exposed, are complaining that the fruit is falling. Raspberries and Strawberries promise well.—W. W. C.

CHOROZEMA CORDATUM SPLENDENS.

THIS is the name of the plant of which "Tyro" sends specimens. Amongst beautiful decorative plants this *Chorozema* ranks very high with its distinct pretty Pea-shaped flowers. It is easy of cultivation, and admirably adapted for the conservatory, small plants being also suitable for the embellishment of rooms, and a well-grown specimen is very attractive in the exhibition tent. It is also suitable for planting out either against pillars or to cover walls in cool houses, but when employed for this purpose good drainage must be provided, or failure is almost sure to be the result. Propagation is effected by means of cuttings, which root readily, or from seed, which some consider the better mode. Having raised plants both ways, we have never found much difference, the seedlings being perhaps a little more robust. As a rule the seed sets freely, and should remain upon the plant until thoroughly ripened, then sow it at once in a pan filled with fine peat and sand. The seeds should be well covered with similar compost, watered, and placed in moderate heat, and in a short time they will germinate. The woodcut (fig. 67) portrays this charming plant.

THE FOOD OF CROPS.*

NEVER before has so much thought been given to this important subject as during what may be termed the present educational period, nor has so much been written on it both in press communications and more or less pretentious works. The minds of men connected with the cultivation of the soil appear to be more than usually active in the search for knowledge of a more exact scientific nature than formerly, and an increasing number of persons who are engaged in the cultivation of the soil desire to become more intimately acquainted with its origin, derivation, and crop-producing constituents. It is very desirable they should gain all the information they can on these and cognate subjects, and much that is useful is plainly conveyed—no small merit—in Dr. Aikman's handbook. As is stated in the preface this work is intended as a guide to the elementary principles involved in the application of fertilisers, and in no sense claims to be a treatise on manures. We like it the better for that, for some treatises on manures are largely padded out productions from which it is no light task to separate whatever of solid grain they may contain from the flimsy chaff. There is too much proneness on the part of certain book-making scientists to over-extol the virtues of artificial or chemical fertilisers and to undervalue the effects of the familiar medium known as farmyard manure. The author does not fall into that error, but clearly recognises the relative values of the various kinds of soil-enriching materials with which he deals. We think an extract will show this and it may well come under the heading we give it:

COMMON SENSE IN MANURING.

It is not likely that farmyard manure will ever be superseded by artificial fertilisers. The proper and economical use for these latter consists in judiciously supplementing the former. Farmyard manure, we must remember, only returns, as a rule, to the soil what has come off it; and that minus a certain varying quantity which is lost in the transition. No doubt, under certain circumstances, where purchased foods, such as linseed cake, are largely used, this loss may be largely made good; but it is rarely entirely made good. It is, therefore, to supplement farmyard manure that artificial fertilisers should be used. The nature of their action is in many respects so dissimilar that they may be regarded as complementary to one another.

Furthermore, in the application of artificial fertilisers the nature of the fertiliser should be taken into account—that is to say, whether it is quick-acting or slow-acting. Nitrate of soda, for example, should only be applied as a top-dressing. Such a fertiliser as bones, on the other hand, should be applied some considerable time before the plant is ready to make use of them. Ammonia salts, while less speedily available for the plant's uses than nitrate of soda, is much more so than the nitrogen in such a manure as dried blood. So also with the different forms of phosphates, soluble phosphates being much more speedily available than insoluble. With regard to potash, it is a common experience that this, although applied invariably in a soluble form, is best applied a considerable time before it is likely to be used by the crop. Hence we find that fertilisers may be divided broadly into two classes—those which should be applied in autumn, and those which should be applied in spring. To the former

class belong manures containing undissolved phosphate, basic slag, nitrogen in an organic form, shoddy, and potash manures; while to the latter class belong soluble nitrogenous fertilisers, nitrates, ammonia, salts, guano, and soluble phosphates.

Generally speaking, soils poor in organic matter are those which are most likely to be benefited by the application of nitrogenous fertilisers. Soils of a dry, light character require less phosphates than they do of nitrogen and potash. A soil rich in organic matter generally requires phosphates or potash. With regard to the application of phosphatic manures, a point of considerable importance in their choice is the nature of the soil to which they are to be applied. Where the soil is poor in lime there is a certain risk in applying acid phosphate. In such a soil it is preferable to use a phosphatic manure of the nature of bones or slag or guano. If, however, there is a sufficiency of lime in the soil, the dissolved phosphate is to be preferred. The nature of the season is also a matter of importance. For instance, in a very wet season it has been found that such a manure as sulphate of ammonia has a better effect than nitrate of soda. A soil liberally treated with farmyard manure is especially benefited by the application of artificial nitrogenous fertilisers. The effect of most fertilisers is chiefly seen on the crop to which they are directly applied.



FIG. 67.—CHOROZEMA CORDATUM SPLENDENS.

Some, however, exert a more lasting influence. As manures which have no influence beyond the first year of application may be mentioned nitrate of soda and sulphate of ammonia. On the other hand, bones, slag, and potassic manures may exercise an influence for several years following their application.

That is what we regard as practical teaching based on scientific facts. We are tempted to make one or two more citations.

THE VALUE OF ANALYSES.

It cannot be too clearly emphasised for the guidance of the agriculturist that the value of a fertiliser as a commercial article depends on the per-centage of nitrogen, phosphates, and potash it contains, as well as the chemical condition of these different fertilising constituents. Since these facts can alone be determined by a chemical analysis, it is obvious that manures should always be purchased on this basis. It is an unfortunate fact that a chemical analysis, even when procured, is not always very intelligible to one ignorant of chemistry. Discarding, then, all other constituents except the nitrogen, phosphates, and potash as not affecting the commercial value of a fertiliser, a word or two may be said on the different forms in which nitrogen may be present—viz., as organic nitrogen, as ammonia, and as nitrates. Now, obviously the fact of first importance is to ascertain what the per-centage of nitrogen in a fertiliser is. This should always be stated, whatever chemical form it is in—whether as nitrates, ammonia, &c.—and no doubt in the future this will be the case. Unfortunately, however, in the past, it has been common to state the nitrogen as ammonia, irrespective of the fact of whether it is present in the manure in that form or not. In a statement of analysis a manure was often

* C. M. Aikman. London: Vinton & Co., New Bridge Street.

said to contain so much ammonia, when in point of fact it contained no ammonia whatever. In order to calculate how much nitrogen a certain percentage of ammonia represents, all that has to be done is to multiply it by 14 and divide by 17, since 17 per cent. of ammonia is equal to 14 per cent. of nitrogen. If, on the other hand, it be desired to convert the percentage of nitrogen into the percentage of ammonia, multiply by 17 and divide by 14.

LOSS BY MIXING FERTILISERS.

The risks of loss which may occur from the mixing of artificial fertilisers together may be of different kinds. One is the risk of actual loss of a valuable ingredient through volatilisation; another is the risk of the deterioration of the value of a mixture through change of the chemical state of a valuable ingredient. Undoubtedly the most common and most serious source of loss is the former. Of the three valuable fertilising ingredients—nitrogen, phosphates, and potash—only the first is liable to loss by volatilisation, and this generally only when the nitrogen is either in the form of ammonia or nitric acid.

Sulphate of ammonia is a salt that is very easily decomposed. This is due to the fact that its base (ammonia) is very volatile and not capable of being held very firmly by an acid, even by sulphuric, which is among the least volatile of all the common acids. Sulphate of ammonia, or any substance in which there is an ammonia salt, must never be brought in contact with free lime, otherwise the ammonia will be lost. It is entirely different with gypsum—which is sulphate of lime—or phosphate of lime, both of which may be safely mixed with sulphate of ammonia without any danger of escape of ammonia. It follows from the above that a mixture which must on no account be tried is slag phosphate and sulphate of ammonia. The risks of the loss of nitrogen in the form of nitric acid, although not so great as they are in the case of ammonia, are still considerable. As nitric acid is not a base but an acid, what is to be avoided in mixing nitrates is bringing them in contact with any other fertiliser, as for example superphosphate, which contains another free and stronger acid. The free acid in the superphosphate has the tendency to drive out the nitric acid from the nitrate and usurp its place. But, as has been already mentioned, there is another loss which may result from the mixing of fertilisers. This is the deterioration of the value of an ingredient by reason of change of chemical condition. This is a source of loss that was little suspected a number of years ago, but it is now well known that superphosphate of lime, under certain conditions, is changed from its soluble to an insoluble form. Reversion, as this form of change is called, is often caused by the presence of iron and alumina, or undissolved phosphate, and the risk of reversion is, therefore, very much less in a well-made article, made from pure raw material, than in one made from a raw phosphate containing much iron and alumina. Superphosphates containing a large percentage of insoluble phosphates ought not to be kept too long before being used as a manure, otherwise much of the labour and expense involved in their manufacture will be lost by the reversion of their soluble phosphate. Further, it is highly inadvisable to mix superphosphate with basic slag, which contains a large percentage of both iron and free lime. Lastly, if it is desired to mix superphosphate with insoluble phosphate, the mixture ought to be made just previous to application.

These extracts denote, though to only a small extent, the character of this useful handbook, in which many other aspects of the food of crops are treated in the same precise, lucid, and excellent way.

ROYAL HORTICULTURAL SOCIETY.

APRIL 21ST.

SCIENTIFIC COMMITTEE.—Present: Dr. M. T. Masters (in the chair); Mr. McLachlan, Mr. Michael, Rev. W. Wilks, Dr. Müller, Mr. J. T. Bennett-Poë, Mr. Douglas, Dr. Bonavia, and Rev. G. Henslow, Hon. Sec.

Primulas, Auricula × Alpine.—Mr. Douglas exhibited a very interesting collection of hybrid *Primulas*, between the "Show" (*P. auricula*) and the "Alpine" (*P. pubescens*, according to Mr. Baker). The former was the pod bearer. They were all raised from the fruit of one truss, and presented a considerable amount of variety in the foliage and the colours of the flowers. The mealiness was much reduced, and indeed nearly absent from the leaves. Two specimens exhibited curious abnormal conditions, upon which Dr. Masters will report. It was stated by the late Mr. Shirley Hibberd, at the *Primula* Conference in 1886, that in his opinion these two classes of *Primula* would not cross, but he observed that "no man was so competent" to experimentise upon them as Mr. Douglas. He had thus completely negatived Mr. Hibberd's surmise.

The Bardfield Oxlip.—Mr. Henslow exhibited specimens of this plant received from Mr. J. French, Felstead, Essex, with a communication containing his observations on the variations of plants under the influence of their environments. With reference to the genus, *Primula*, he observes, "An instance of 'bog' modification is that of the Bardfield Oxlip (*P. elatior*). This in bog land would be unrecognisable to the ordinary observer. There are acres of boggy pastures at Great Bardfield, where every plant of this species has but one floret to each peduncle, and a small rosette of leaves resembling *Celandine* more than *Primrose*. The common *Paigle* (*P. veris*) lives in the same meadows unchanged. It is, therefore, clearly in the capacity of the Oxlip to be moulded by its environment alone." With regard to hybridisation Mr. French notices that while "*Primroses* seed themselves tolerably well alone, and also remain constant or very nearly so [in a garden], as they do in the wild state, when you put them in company with the Oxlips (unless I am mistaken altogether in my observations) a different arrangement will ensue. The Oxlips still remain unaltered, for the Bardfield Oxlip cannot be changed by crossing, whereas the *Primrose* and *Paigle* are both very unstable; but the seedling *Primroses* will gradually (that is in the course of four or five seasons) very materially change, and that apparently without any fixed law. The petals may or may not alter their colour or become foliaceous; the corolla may put on the form known as 'hose-in-hose;' the peduncle will almost certainly be

lengthened, and the typical *Primrose* leaf will gradually vanish and give place to a form intermediate between that of a *Primrose* and *Oxlip*; the leaf, in fact, will be the only hybrid feature, so to say, none of the other changes pointing either to that or any other particular direction. My impression is that the changes finally result in sterilisation, and that the plant, if left alone, will never recover its normal state, but I cannot speak with certainty on this point. My experience is that the Bardfield Oxlip does not readily seed itself, but my firm belief is that its pollen readily fertilises the *Primrose*, and occasionally, but not often, the *Cowslip*. It, in common with the others, is visited by many sorts of insects." Mr. French sent a great variety of blossoms of *Primroses* with white and pink corollas, as well as foliaceous and other modifications; of these he observes, "The enclosed flowers are from *Primroses* which have seeded in a natural way in my garden, but the changes have not been developed until the second or third year has passed. My contention is that the changes are due in part to cultivation, but very much more to disturbances initiated by the application of pollen from other plants, and more particularly from the stamens of the Bardfield Oxlip, in the company of which they have been grown. It may be of interest to say that I live on the limiting line of the two species, the Oxlip and *Primrose*, and can easily point out the most northerly *Primroses* and also the most southern Oxlips, and at one place there is not a mile between the two; but the line is absolute, and neither plant intrudes into the other's domain." Dr. Masters observed that the only change the Oxlip undergoes in his garden is to sometimes assume a pink colour.

Wellingtonia, ♀ Flowers.—Dr. Masters exhibited shoots of the *Sequoia gigantea* with terminal young cones in the flowering state:—They are scarcely quarter of an inch in length, and therefore easily overlooked, but being more globular in form when once seen they can be readily distinguished from the leafy apices of other shoots.

Sirex gigas in Timber.—He also showed a specimen of the "Hornet Saw Fly" from Dropmore. It is rather larger, but somewhat closely resembles a hornet in appearance. The grub bores through timber. Mr. McLachlan observed that it was formerly much more abundant, having been introduced from North Europe.

Niphotos Rose, Malformed.—Dr. Masters also exhibited good examples of a foliaceous calyx in this Rose, the sepals being converted into large pinnate leaves.

Tyloses in Beech Root.—Dr. Masters exhibited a microscopic slide showing the cellular growth in the vessels known by this name. To such an extent had it occurred that the wood showed a dark brown streak, indicating the position of the vessels containing the tyloses.

Mignonette, Origin of.—Mr. Henslow suggested, from a comparison between *Reseda odorata* and *R. Phytenma*, a common species in South France and Algeria, that this latter was the source of the garden plant. In the original description in "Bot. Mag.," A.D. 1790, it is said to be Egyptian, but the garden *Mignonette* is not in the Egyptian nor in North African Floras, and does not appear to be known wild. The differences between this and *R. Phytenma*, as Mr. Douglas observed, are not greater than between varieties of *R. odorata*. The wild species, it is true, has not the scent; still, as Mr. Henslow observed, when a bunch of the flowers are taken, there is just a faint odour suggestive of the *Mignonette*.

Caltha palustris, Honey Glands of.—Mr. Cuthbertson called attention last year to the apparent absence of these structures described by Müller on the sides of the carpels in his "Fertilisation of Plants," for that author spoke of a "fold" on the sides of the carpels, with a gland in the fold. This has not been seen in any English plant, but there is a spot where the epidermal tissue is papillate, suggestive of an abortive gland. Mr. Cuthbertson forwarded specimens received from Germany, but still nothing was present in agreement with Müller's description, but only as occurs here.

TOTLEY HALL AND ITS DAFFODILS.

TOTLEY HALL, the residence of W. A. Milner, Esq., is situated on the borders of Derbyshire, about six miles from Sheffield. Tourists by coach from that city bent on seeing the treasures of princely Chatsworth, or exploring the splendid ruins of historic Haddon, catch a glimpse of the Hall through its surrounding belt of timber a little while before they come in sight of the edge of the Heather-covered moorlands. One portion of the Hall bears the date 1623 chiselled in the stone by some ancient craftsman long since departed.

The grounds in front of the house slope gently downwards, revealing a charming view of wooded hills and verdant pasture land. Here, after the chill winds and frosts of winter have given place to spring, appear in very great profusion the chaste and lovely flowers of the Daffodil, for Totley Hall is the "home of the Daffodil," and the Daffodil is "at home" at Totley. Standing at the lower end of the long flower borders, which are confined within hedges of closely clipped bright Hollies, intersected by a winding path fringed with seedling *Auriculas*, there bursts upon one's vision a "host of golden Daffodils," the effect of which it is difficult to imagine. They must be seen to be fully realised. As one gazes upon them with their delicate and fragile heads, waving gently to and fro in the soft westerly breeze, there rushes involuntarily to one's mind with a sympathetic thrill Wordsworth's words on his sudden view of the wild Daffodils by Ullswater:—

"Then my heart with pleasure fills,
And dances with the Daffodils."

The deep golden yellows glow with a warmth that suggests the absorption of the sun's rays at their brightest moments. The chaste

and beautiful whiteness of others appear as if they had, in the stillness of the night, quietly appropriated the silvery moonbeams that softly kissed their fragile petals; whilst the paler tints of cream, sulphur, and primrose are suggestive of the soft coloured mantle spread o'er the sky by the last lingering rays of the setting sun. The Daffodil, fit emblem of spring, is here in all its forms and colours. Flowers in great profusion, of all shapes and sizes, blend artistically together, and make this most beautiful floral panorama. With the blue sky above, surrounded by the varied tints of the budding trees and shrubs, in which the mavis and the merle chant their matins and evensong, the Daffodils make a picture that delighted the thousands of visitors who have made a pilgrimage to Topley Hall this spring.

The varieties and species of the collection are very numerous. They are distinguished in their blooming quarters by numbered labels, of which I counted 232. The most striking group is a stately clump of "Weardale Perfection," which rears up above all the rest seven huge primrose and cream coloured blooms. The perianth of this magnificent flower measures more than 5 inches across. The foliage is as remarkable as the flower, the grey green leaves measuring $1\frac{1}{4}$ inch in width. It is an extremely strong grower, and very fertile in bearing seed. It is without doubt the finest Daffodil in cultivation at the present time. Close by, enabling the observer to contrast their respective beauties, are growing Glory of Leyden, Madame de Graaff and Madame Plomp, all giants of their kind. Amongst the sorts grown in great masses Empress leads the van with 2500 bulbs; Emperor follows with 1600. The Ajax that were particularly fine are Lord Derby, John Nelson, P. R. Barr, Captain Nelson, Shirley Hibberd, maximus, J. B. M. Camm, Grandee, Harrison Weir, Horsefieldi, Michael Foster, and Dorrien Smith.

Noticeable on account of their refinement and delicacy of colour are the white Ajax varieties of Mrs. J. B. M. Camm, Mrs. Vineent, cernuus pulcher, tortuosus, Galatea, Exquisite, Mr. Burbidge, Lady Grosvenor, Sir S. Northcote, W. P. Milner, and Matson Vincent. Many other good specimens, of which Mr. Milner grows large quantities, are Duchess of Westminster, Madame M. de Graaff, Golden Star, Barri albus, Sensation, Princess Mary, Barri conspicuus, J. D. Meston, Titan, Autocrat, Backhousei, Frank Miles, Amahilis, Minnie Hume, Mrs. Langtry, Grand Duchess, Catherine Spurrell, Madge Matthew, Princess of Wales, Nelsoni aurantius, Wm. Backhouse, Nelsoni major, C. J. Backhouse, Flora Wilson, Maurice Vilmorin, Queen Sophia, Mary Anderson, Mrs. Bowlby, Gloria Mundi, and Princess Louise.

Many charming Daffodils, in miniature, are amongst the collection, the most diminutive being the modest little rush-leaved variety juncifolius, whose blooms are only three-quarters of an inch across. There are also the snow white blossoms of triandrus albus, which is known by the common but beautiful name of "Angels' Tears," moschatus, and the quaint forms of the Hooped petticoat variety. On a sunny bank grows a striking group of the elegant pale yellow Johnstoni, Queen of Spain, one of the specimens of Mr. Barr's many trophies from the Pyrenees.

In addition to the growing plants, an exhibition of cut blooms was provided in one of the lower rooms of the hall, which was fitted with staging specially for the occasion. It consisted of 250 glass vases, containing from six to twelve fine cut blooms in each of the best and choicest flowers, many of them with names attached. It was a very beautiful exhibition, arranged in artistic style. Mr. Milner is a most enthusiastic and skilful cultivator of this queen of spring flowers. Every year he cross-fertilises a number of blooms, with the result that he has always a quantity of seedlings coming on, and in consequence raises some good and interesting varieties.

Apart from the Daffodil garden are many spacious borders, which contain a very complete collection of herbaceous plants. The rock garden also contains many objects of great interest to the lover of Alpines. Amongst other good things are eight varieties of Androsace, the Edelweis, Gentianas verna, acaulis, and lutea; Adonis vernalis, Ramondia pyrenaica, and the beautiful white variety. In the shady bog garden are large patches of Cypripedium spectabile and calceolus, Meconopsis Wallichii nepalensis, Trilliums, Fritillarias, and numerous specimens of hardy Primulas.

Inside the greenhouse there is a gay show of bloom, and the plants appear to be in a most healthy condition. There are a number of Dendrobiums, which recently made a very good display, but they are now about over. A few specimens, however, still make the houses attractive. A plant of Dendrobium Pierardi latifolium is exceptionally good. It has twenty long bulbs, bearing over 200 fine blooms of a particularly good type. Dendrobium thyrsiflorum is also in good condition, one plant bearing twenty-three fine racemes, about 10 inches long with fifty to sixty flowers on each. A fine variety of Dendrobium nobile is in bloom. The flowers are large, the size of a good Wardianum, have a fine deep-coloured lip, and are deeply coloured in the petals. Several plants of an unusually large variety of Phaius Wallichii have thrown up a number of strong spikes, bearing numerous fine deep-coloured flowers.

Mr. Milner has forty large plants of Imantophyllum Milneri, one of the best varieties grown. They are brought on in a succession of three batches; the last of these is a very striking object in the greenhouse, being now in full bloom. The plants bear a very high state of cultivation, each one being furnished with a good number of strong heads of bloom of a deep rich flame colour. Some of the heads bear thirty flowers. Many plants fill the houses, but the most attractive, after the Imantophyllums, are the large show of Cinerarias and Calceolarias. These plants are full of bloom, good in colour, size and shape, and make a capital display of their own. Azaleas, Deutzias, Rhodo-

dendrons, Callas, and many other excellent examples of the florist's art, make up a very brilliant and attractive show, filling completely one of the largest greenhouses. In this house are also about 100 plants of Disa grandiflora, with good healthy growths.

The Vines are bearing a good crop of Grapes, and, as they are in excellent condition, will, without mishap, produce an abundant supply of fruit later in the season. Forced Strawberries have been gathered since the last week in March, and, on the occasion of my visit, the plants were still bearing a lot of fine ripe fruit, and there are other plants with an abundant promise of fine fruit in the houses. All the plants and flowers are a great credit to Mr. T. W. Birkenshaw, the head gardener.

Mr. Milner has set an example which is worthy of imitation by all who are the happy and fortunate possessors of good collections of plants and flowers, by throwing open his grounds to the public on three days whilst the Daffodils were in perfection. Many thousands from Sheffield and other towns gladly availed themselves of this privilege, and went away charmed and delighted with the sight of so much beauty. To most people a visit to Mr. Milner's garden at this time of the year is simply a revelation; astonishment at the quantity and beauty of the display was expressed by the visitors upon all sides. The quiet little village of Topley was *en fête* for the greater portion of one of these special days in consequence of the very great influx of visitors.

On Saturday, the 18th of April, Mr. Milner, one of the Vice-Presidents, received a visit from the Sheffield Chrysanthemum Society by invitation. Every facility was given to the members to inspect the Daffodils and grounds. In the evening above 130 members partook of the hospitality of Mr. Milner, who kindly provided an excellent dinner at a neighbouring hostelry. After the repast was over the remainder of the evening was spent in a sociable and enjoyable manner, when a most hearty vote of thanks to Mr. Milner was enthusiastically passed for his great kindness and generosity. The entertainment was presided over by Mr. J. G. Newsham.—J. H.

INSECT LIFE.*

A BOOK of 235 pages, bearing the above title, is before me through the courtesy of the Editor of the *Journal of Horticulture*, and is what it professes, "A Short Account of the Classification and Habits of Insects," by Mr. F. Theobald, Agricultural College, Wye. To be acquainted with the life history of insects, their habits and mode of life, is the first essential step in practical economic entomology, for without this there is nothing but a waste of force and means that may or may not effect the desired object. Albeit, empirical measures are frequently the precursors of effective precautionary and remedial practices, because of the acquaintance eventually gained by the operator with the subject in hand.

In the introduction and classification a glance is taken of the place insects hold in the animal kingdom, special reference being made to the group Arthropoda, one of the most important in the invertebrate sub-kingdom, which are "distinguished from the other invertebrate classes (Protozoa, Vermes, Mollusca, &c.) briefly as follows. The body is composed of a number of rings, segments, or somites, arranged along a longitudinal axis. Each segment may have a pair of appendages (some always have). The appendages are always composed of joints, and are united to the body by a distinct articulation; they are always hollow, and contain prolongations of the muscles. The segmented body and the articulate limbs are more or less completely covered by a thick chitinous coat or exo-skeleton. The nervous system is composed of a double chain of ganglia, united by commissures and anteriorly perforated by the oesophagus. The nervous system is always placed on the ventral surface of the body. Respiration takes place by means of gills, pulmonary sacs, or by specially developed tubes, called tracheæ. The hæmal system when developed is present on the dorsal surface, and consists of a large tubular heart, opening on each side by valvular apertures into the perivisceral spaces containing corpusculated blood."

Such is the language in which the author treats his subject, and then follows a brief classification of the Arthropoda, which are divided into four groups:—1, Crustacea; 2, Arachnida; 3, Myriapoda; 4, Insecta. To these belong the familiar woodlice, spiders, millipedes, and insects respectively, and many of them too well known to gardeners. Insecta, as befits the title of the book, are chiefly treated on, and of these there are said by Dr. Sharpe to be 2,000,000 species; but the author mentions that under 250,000 species have been described, also that every plant "has some insect living upon its tissue, most insects exclusively feeding upon one particular genus of plants." Thus the author renders his subject interesting and even entertaining, and simplifies matters by a reduction of Insecta to seven orders:—1, Coleoptera; 2, Hymenoptera; 3, Lepidoptera; 4, Diptera; 5, Hemiptera (this being subdivided into 1, Heteroptera and 2, Homoptera); 6, Orthoptera; 7, Neuroptera. This is slightly varied from Murray.

The chapter on the metamorphoses of insects is capitally treated and well illustrated. After that comes their structure, which is even better, everything being clearly defined and shown. The antennæ or horns are seen by the illustrations to have important functions to the insect, and the eyes are studied. Then comes the mouth, and this soon convinces any observer, if he need any, of the power for biting and sucking. Even the legs are seen to be curiously and wonderfully made. The internal parts receive a generous share of attention.

Chapter IV. is devoted to Coleoptera or beetles, which date in geological time from the palæozoic rocks, there having been "borers"

* Published by Messrs. Methuen & Co., 36, Essex Street, London, W.C.

in the carboniferous age. Of these there are over 3000 species in this country, "or nearly one-fourth of our total insect fauna." All, however, are not destructive of vegetation, for some are carnivorous and do much good, but the wireworms and grubs make up for that, yet even these have their parasites. So the work goes on through the remainder of the orders, all charmingly treated, historically, descriptively and characteristically, a great feature of the book; the good noted, the evil marked for destruction. Even the Aptera or wingless insects come in for a share of attention, including the jumpers (*Thysanura* and *Collembola* groups) and called "primitive insects."

Lastly, insecticides are briefly discoursed on, and we are told that "one of the chief objects in destroying insects is to kill them before they have increased sufficiently to have done much harm." In this respect the work is meagre, there being little about either insecticides or their modes of application. Those, however, desirous of becoming acquainted with insect life will find it very plainly set forth in this book, and as entertaining as the matter is instructive and suggestive.—G. A.

AURICULA SHOW—NORTHERN SECTION.

THE annual show of the National Auricula Society, Northern Division, was held on Saturday at the Royal Botanical Gardens, Old Trafford. The mild winter and spring have been favourable to the growth of the hardy flowers, which the Society takes into its special favour. Further there has been of late an accession in this district of very high-class seedlings, together with an increase in the number of enthusiastic cultivators. These circumstances all combined to make an exceptionally important show, one, in fact, which alike for extent, variety, and quality was declared to be superior to the show of the southern sister society held in London on the 21st inst., and equal to, possibly slightly ahead of, anything yet accomplished by the northern association. The premier Auricula was an unusually fine example of *George Lightbody*, sent by Mr. T. Lord of Todmorden, who is a comparatively new cultivator of Auriculas, and in several other instances fresh names of growers came honourably to the front by the decisions of the Judges. The Rev. F. D. Horner, who has usually taken the premier prize in the chief department, was again an exhibitor, and was represented by admirable plants. His group of six dissimilar was so good as to make the task of deciding between that and Mr. Lord's an exceedingly difficult matter. In the long run Mr. Lord came off conqueror. The remarkable improvement of late years in Alpines was further emphasised. Mr. John Beswick of Middleton stood out prominently as a raiser and an exhibitor.

Although it was feared that Polyanthuses might prove to be over, they were present in force and in very good condition. Mostly they came from the Middleton district. The cultivators of that locality may properly be thanked for the preservation of the gold-laced Polyanthus, of which several good specimens were on view. The Society's certificate of honourable mention was awarded to Messrs. Dickson, of Chester; and the Misses Hopkins, of Knutsford, for exhibits not for competition. Those sent by the ladies were fancy Primroses in great variety. Mr. Henry Brownhill of Sale, staged an extensive collection of plants and flowers, and was awarded the Botanical Society's silver medal, chiefly for his specimens of *Clematis* and *Primula Sieboldi*.

For six dissimilar Auriculas, Alpines excluded:—First, Mr. T. Lord, Todmorden; second, Rev. F. D. Horner, Burton-in-Lonsdale; third, Mr. W. H. Midgley, Halifax; fourth, Mr. B. Simonite, Sheffield; fifth, Mr. J. W. Bentley, Stakehill; sixth, Mr. J. Clements, Harborne, Birmingham; seventh, Mr. J. Stokes, Harborne. Four dissimilar:—First, Rev. F. D. Horner; second, Mr. T. Lord; third, Mr. W. H. Midgley. In the class for pairs, Miss Woodhead, Halifax, was first; Mr. R. Gorton, Eccles, second; and Mr. A. R. Brown, third.

Single plants, green edges:—First, Rev. F. D. Horner; second, Mr. T. Lord; third and fourth, Mr. B. Simonite. Grey edges:—First, Mr. T. Lord; second, Mr. W. H. Midgley; third, Rev. F. D. Horner. White edges:—First, fifth and sixth, Mr. T. Lord; second and fourth, Mr. W. H. Midgley; third, Mr. R. Gorton. Selfs:—First and eighth, Mr. T. Lord; second and sixth, Mr. J. W. Bentley; third, fourth, fifth and seventh, Mr. B. Simonite.

In the Alpine section for six dissimilar Mr. J. Beswick, Middleton, was first, Mr. R. Gorton second, and Mr. J. Stokes third. Four dissimilar:—First, Mr. J. Beswick; second, Mr. W. Bentley; third, Mr. R. Gorton. Pairs, dissimilar:—First, Mr. J. Stelfox; second, Mr. T. Lord; third, Mr. A. R. Brown. Single plants, yellow centres:—First, fifth, and sixth, Mr. R. Gorton; second, Mr. J. Stokes; third, Mr. J. Beswick. White centres:—First, Mr. R. Gorton; second, third, and fourth, Mr. J. Beswick. Premier Alpine:—Mr. T. Buckley, with *Brighteyes*.

The charming weather of the early afternoon, with a temperature more suggestive of summer than of spring, drew a large attendance. Among the visitors were a party of members and friends of the Manchester Field Naturalists' Society. In the evening there were clouds and rain by way of contrast, yet although the gathering was not what had been anticipated for the band promenade and indoor concert which had been announced, there was a distinct augmentation of the company patronising the gardens after sundown.—("Manchester Courier.")

TRADE CATALOGUES RECEIVED.

T. S. Ware, Tottenham.—*Dahlias and other Plants*.

H. W. Weguelin, Shaldon, Teignmouth, Devon.—*Carnations and Picotees*.



FRUIT FORCING.

Peaches and Nectarines.—*Earliest Forced House.*—On early varieties the ripening fruit must be kept dry, but the border should be properly moist. As the fruit of the other varieties will not be ripe for some time, keep the atmosphere moist by frequently sprinkling the floor during the day, or where practicable syringe in the morning and again at closing the house. The night temperature will be perfectly safe at 65° to 70°.

Fruit Stoning.—When the fruit is undergoing this process it must not be hurried; 60° to 65° at night is ample, and 70° to 75° by day, avoiding high night temperatures and sudden fluctuations. A little ventilation at night will prevent the deposition of moisture through the night to any serious extent, and by enlarging the openings when the sun acts on the house, yet without lowering the temperature, scorching will be avoided. The temperature should advance with the power of the sun and a corresponding increase of ventilation. Avoid anything calculated to dry the atmosphere. Early closing is to some extent an advantage, but it must not be continued too long, as pent up heat and moisture have a more or less weakening tendency. It is also advisable to allow a little extra latitude to the growth, but on no account permit foliage to be made which must afterwards be removed in quantity. Keep the border well supplied with water, avoiding undue excitement by stimulating the roots with nitrogenous substances. Judicious feeding, however, is a great aid to trees when stoning, but let it be of a phosphatic nature, such as dissolved bones, these supplying sufficient ammonia for steady progress; also potash in readily available form, with a little magnesia, and if the foliage be pale a minute amount of iron sulphate. The surface may be lightly mulched to keep it moist and attract the roots.

Trees Swelling their Fruit.—The fruit swells most at two stages; one after setting until the commencement of the stoning process, during which there is a gradual development, and after stoning the progress is rapid. The first swelling is materially influenced by the previous storing of matter in the trees and the available food in the soil; but a genial condition of the atmosphere accelerates the swelling of the fruits, this being still further promoted by a good root action, which is greatly facilitated by a judicious and gradual regulation of the growths by disbudding and affording proper space for them. The more vigorous the tree the greater is the danger of the fruit being cast in stoning, and the evil is further increased by severe disbudding, also by a close and moist atmosphere. In the last swelling after stoning tie the shoots down, so that the fruit may be fully exposed to the light; but moderate extension will assist the swelling, care being taken that the principal foliage be not interfered with. Supply water to inside borders as required, and afford top-dressings or liquid nourishment to weakly trees.

Melons.—*Early Plants.*—When the fruit commences ripening lessen the supply of water at the roots, but not so as to distress the plants, for if the foliage has been kept clean and the roots are in good condition a second crop may be had. Withhold atmospheric moisture, and provide a circulation of warm air, increasing the temperature to 70° or 75° artificially, and 80° to 90° with sun heat. If any fruits show a tendency to crack cut the shoots about half way through with a sharp knife a few inches below the fruit, diminishing the supply of water at the roots and in the atmosphere, leaving a little extra ventilation constantly to prevent moisture condensing on the fruit.

Succession Plants.—When the plants are coming into flower keep the atmosphere rather drier and warmer, ventilating early, and leaving a little constantly to prevent the blossoms becoming too damp. Fertilise the flowers when fully expanded, stopping the shoots at the same time one or two joints beyond the fruit. Earth the plants with some rather strong and rich loam after the fruits begin swelling, ramming it firmly. Plants swelling their fruits may be syringed in hot weather about 3 P.M., damping the floor several times a day, and occasionally in the evening with weak liquid manure. Shade only to prevent flagging, ventilate freely in favourable weather, commencing from 75° to 80°, increasing during the day as may be necessary, maintaining a day temperature of 80° to 85° or 90° with sun heat, closing between 80° and 85°, and if an advance is made after closing to 90° or 95° it will materially assist the fruit swelling, but it must be accompanied by plenty of atmospheric moisture.

Train out the growths in pits and frames, still maintaining a good bottom heat by linings, and employing night covering over the lights. Earth up the roots as they protrude through the sides of the mounds. Do not allow young plants to become root-bound before placing them out, as they rarely make free growth afterwards. Any plants that are likely to get into that state should be shifted into pots a size or two larger than those they are at present in, in order to keep them in steady progressive growth. Sow seeds for raising plants for pits and frames as they become cleared of bedding plants, potting the young plants as required.

Cucumbers.—Plants in houses must be syringed twice a day, so that every part may receive a thorough washing without injuring the foliage, as without such attention the plants are liable to be infested with red spider, which soon spoils the plants. Those growing in frames

will not require sprinkling so often, once a day sufficing when the weather is bright, and none at all when the weather is dull. Give the necessary waterings, using liquid manure to plants in full bearing. Avoid overcrowding the growths, and to secure clean fruit in rapid succession eschew overbearing. Straight fruits are secured under such conditions, or if not place the fruit in glasses as soon as set. Attend to the necessary stopping, thinning, and tying, keeping a succession of fruitful growths. No more fire heat should be used than is absolutely necessary.

Strawberries in Pots.—The present is a trying time to forcers of Strawberries in vineries and Peach houses, for however good the management red spider appears. Arrangements will need to be made so as to have a succession of plants, and crops that are ripening too fast may be retarded in various ways for several days in case an extra supply is needed for particular occasions. The expedients are turning the plants so that the fruit will be from the sun, shifting to a north house, or removing to an airy fruit room or shed after the fruits are fully ripe. Much may be done at this time of year with judicious management. Plants can be accommodated in cold or low-heated pits, and if they have the pots plunged in ashes with the plants well up to the glass, but leaving room for a circulation of air to play between the glass and the leaves, will make sturdy development, and the forward plants from these structures can always be picked to take the place of those that have the fruit ripe and ripening. Supply liquid manure at every alternate watering to plants swelling the crops, but care must be taken not to give it too strong.

THE FLOWER GARDEN.

Asters.—Those already raised with a view to having an early display ought to be pricked out in boxes of rich loamy soil, from which each plant may be lifted with good roots. Keep them in gentle heat, shading lightly only for the next three weeks, afterwards gradually hardening the plants. Now is a good time to sow Aster seed extensively. It will germinate in three days if placed in gentle heat and well shaded. Gradually expose and harden, pricking out sturdy little plants thus obtained in boxes or beds of rich loamy soil in frames by the end of April.

Balsams.—When either raised early or in strong heat only leggy, worthless plants result. Sow the seed thinly in boxes or pans, place in a greenhouse or other moderately warm place, and shade till the plants are up, when a greenhouse shelf or cold frame is the best place for them. In this way sturdy little plants may be had, which should be placed singly in $3\frac{1}{2}$ inch pots.

Carnations and Picotees.—The Marguerite section of Carnations ought now to be quite forward enough to place singly in 3-inch pots. Keep them in gentle heat or rather close in frames till they are rooting strongly, when they may be hardened and planted where they are to flower. Seedling border Carnations and Picotees flower grandly in the open during the year following that on which they were raised. If already large enough to pot singly they would attain an extra large size by the autumn and flower profusely next season. It is not yet too late to sow. Layered plants ought not to be kept in small pots any longer. Plant out in slightly raised beds in a mixture of fresh loam, old Mushroom bed manure, and either road grit or sharp sand. Stir the soil about the old plants, and top-dress with loam and manure.

Gladiolus.—Corms of these ought now to be planted in good loamy compost. Form holes 4 inches deep with a trowel, place a little sharp sand, wood ashes, and charred soil in the bottom, on this disposing the corms. They may either be arranged in groups or singly from 15 inches to 18 inches apart each way. A carpeting of Violas or Mignonette can be grown with them. When Gladioli are wanted for mixed beds and borders, and the sites are not yet ready, start them in 5-inch pots, and plant out late in May.

Stocks.—Very early raised plants of these are apt to become spindly and to flower prematurely. Any that are forward enough ought to be pricked out in pans or boxes of good soil, and grown in frames till large enough to plant out. The Ten-week section is the first to flower, a succession being had by sowing East Lothian, Earliest-flowering Autumn, and Princess Alice varieties.

Hardy Annuals.—It would be a mistake to longer defer sowing these where they are to flower. They are most effective arranged according to their heights in patches in mixed borders. The ground for them ought to be manured and freely worked, taking care to fine it down properly, seeds generally failing to germinate and the plants to grow satisfactorily in lumpy soil. Form circular shallow depressions, water if at all dry, sow the seed thinly, and cover lightly with a little sifted soil obtained from the frame ground. Trap slugs by means of small heaps of Broccoli leaves, a necessary precaution in most instances this season.

Various.—Ornamental Grasses ought to be sown at once. They can either be grown in rows, where they may be cut directly they are fit for drying, or in patches similarly to hardy annuals. Sunflowers may be raised in heat, and either potted singly or pricked out in boxes. They will transplant readily enough. Dianthus and Phlox Drummondii ought now to be large enough for pricking out into boxes, and given a fresh start in a warm frame will develop into strong plants that may be hardened and planted where they are to flower before the busy time commences. Campanula media calycanthema should be sown at once under glass, and if the seedlings are not neglected they ought to be strong enough to flower next year. Sow Wallflowers and Forget-me-nots, either in the open or in boxes, at once. They cannot well be got too forward. Plant out Mignonette, Sweet Peas, and Iceland Poppies raised in pots before they become badly root-bound. Hollyhocks in small pots to be given a shift into 6-inch pots, and kept in a warm frame or pit for another fortnight or three weeks.

THE BEE-KEEPER.

PRACTICAL NOTES.

It is one thing to write and advise but another to put into practice. Many contingencies arise to upset preconceived theories and compel departure from stereotyped rules, consequently the best teaching is that of practical workers, who detail their experience and point out what brought about success or failure. Bees are not exempt from occurrences of a perplexing nature, including those induced by adverse weather.

The present spring has been the most trying and fatal one to bees during my lifetime. Until the 18th April there was only one day on which the bees could fly with safety and were able to return to their hives without loss. Previous to the 18th inst. we had severe wintry weather for ten days, and not more than forty hours of sunshine since December. On the 11th the thermometer stood at 23°, and the snow covered the hills from top to bottom, on some of them to a considerable depth. The wind continued north by north-west, and was very high nearly all the time, withering fruit blossoms and flowers and keeping bees in their hives.

There was no opportunity to feed with either peameal or syrup, and fortunately no need; when bees do not require it feeding does more harm than good. I never knew a case where fed have surpassed unfed ones. Bees know their time to increase as well as the cuckoo and the swallow know their time of coming.

A favourable change for the better came on the 18th; the wind had lulled, the sun shone, the temperature began to rise, and on the 22nd stood at 60°, the highest of the year. Bees flew out strongly, carrying so much honey and pollen that it was necessary to widen the entrances of all hives except two, and by night the sweat stood on the alighting boards to the full breadth. Now they appear more like swarming, betraying no weakness on account of the, to them, untoward season, or through want of food.

My best hive is a crossed Carniolan, followed closely by a number of crossed Punics. They are now all free from chloric dropsical fever, and one hive, the queen of which was hatched in July, 1895, and fertilised in the following October, is hard upon my earliest one, although most of its original bees died through disease in the autumn.

All the rest are queens of 1894, with five exceptions, hatched in August and September, and fertilised in these months. The other five were hatched in July.

The hives to depend on for profit when properly managed in storyifying hives are those having queens which have bred little during the previous year and not stimulated, but having abundant stores in large hives. At the present time I have several two-thirds in size only, and they are my weakest colonies. — A LANARKSHIRE BEE-KEEPER.

FLOWERS FOR BEES.

THE wealth of flowers prevailing in all directions at this season is apparent to the most casual observer, not so much, however, in the neighbourhood of large towns, where it is pleasing to know many bee-keepers follow their hobby, though not always under the most favourable conditions. But in the country, far removed from the smoke-laden atmosphere, may be seen flowers in abundance at almost every turn; some are small and insignificant, and would probably pass unnoticed by an ordinary observer, but not so by the bees, which are ever on the alert for the pollen and honey-producing flowers.

Among our trees that produce the latter may be classed the different varieties of Box, of which there is a great number, and I have never previously observed such a quantity of bloom on them. As they produce a large amount of pollen they are much frequented by bees.

The different varieties of Willows, too, are excellent for producing pollen early in the year, and during a forward season, like the present, honey is also obtained from them. As there are many varieties, the season is prolonged for several weeks—the earliest, the Palm Willow, commencing blooming in February, and other kinds are still in flower. The early Rhododendrons, that withstood the extreme cold of last year, are now a gorgeous mass of bloom, the pollen of which is much sought after both by the worker and the humble bee.

In the woods and hedgerows may be seen the wild Sloe, a sheet of white flowers, reminding one of the Thorn trees that will be in bloom later on. The wild Cherry, of which there are many fine specimens in the woods within easy reach of the bees in my apiary, are now in bloom, and are much visited by the busy workers. The Sycamore, now fast opening its drooping flowers, produces honey in

abundance, also pollen, which is so necessary for the well-being of the bees at this season.

In the gardens and orchards Plum and Damson trees are a sheet of bloom. These will be fertilised by the bees, as they are favoured by them on account of the large amount of both honey and pollen that is obtained from them, and should the frost keep off, fruit growers will doubtless be rewarded with a good crop of fruit, largely due to the industrious bee. The Pear trees are fast bursting into bloom; these will be followed by the Apples, from which, in the South and West of England, a harvest of honey is sometimes obtained. This is not often possible in the Midland counties, the bees as a rule not being of sufficient strength to store a surplus, only obtaining enough for their daily requirements, as the trees are grown in a limited quantity; but when honey can be obtained from this source it is of excellent quality.

Among the flowers of the garden, wood, field, and hedgerow may be mentioned *Arabis alba*. This plant has been in full beauty for some time past, and is much sought after by the bees. It ought to be planted by everyone who has a garden, as large masses of it may remain undisturbed for years. It does remarkably well on a rockery, and is one of the most showy of the early spring flowering plants with which I am acquainted. *Aubrietias* are of similar habit, and require the same treatment. They are propagated by dividing the plants after flowering.

Wallflowers are too well known to need any description, and owing to the mild winter are now flowering freely. These are much appreciated by the bees, as they obtain abundance of both pollen and honey from them. *Doronicums* and many other occupants of the garden may also be classed as useful bee plants. The various bulbs planted out on the grass, such as *Daffodils*, *Tulips*, and many others answer the double purpose of beautifying one's surroundings and supplying the bees with their requirements.

First and foremost of the dwarf flowers growing wild in our woodlands must be classed the *Wood Anemone*. The woods at the present time are carpeted with this beautiful flower. In some districts it grows much more freely than in others. The best I have seen has been on the limestone formation. Bees are very partial to this flower, and will travel long distances to work on it. Many other wild flowers at present in bloom might be mentioned as being beneficial to the bees. *Violets*, *Primroses*, *Cowslips*, *Daisies*, *Dandelions*, and *Pileworts* are all good bee flowers.—AN ENGLISH BEE-KEEPER.



•• All correspondence should be directed either to "THE EDITOR" or to "THE PUBLISHER." Letters addressed to Dr. Hogg or members of the staff often remain unopened unavoidably. We request that no one will write privately to any of our correspondents, as doing so subjects them to unjustifiable trouble and expense.

Correspondents should not mix up on the same sheet questions relating to Gardening and those on Bee subjects, and should never send more than two or three questions at once. All articles intended for insertion should be written on one side of the paper only. We cannot reply to questions through the post, and we do not undertake to return rejected communications.

Malformed Rose (*T. A.*).—The example you have sent is not unique, specimens having several times been sent to this office. It is an elongation of the axis of growth, and we suspect that no one could tell you the real cause.

Retention of Plants (*X. Y. Z.*).—We presume you are a gardener, though you do not say so, and have obtained plants and grown them in the garden of your employer. If this is so, you cannot legally take away any of the plants without his permission.

Price of Goldfish — Type Accidents (*J. E.*).—The price mentioned on page 370, 4d. to 6d. per hundred, ought to have been 4s. 6d. per hundred. Another accident is observable in the slipping of letters near the top of the first column on page 377, relating to *Conifers* at *Orton* and the mention of *Cupressus "Lewsoniana"* instead of *Lawsoniana*.

Zonal Pelargonium Ellen Terry (*T. S.*).—The gum you used must either have been weak or imperfectly applied, as not half a dozen flowers were retained by the trusses, which rested on a bed of rosy salmon petals. The few flowers that remained in condition were good in size and form; the trusses were evidently good also, and the colour is pleasing.

Melon Plants Injured (*John*).—Beyond the scorching or injury to the leaves there is nothing whatever amiss with the plant. There is more or less damage to the cuticle by some fumes, which appear to be those given off by undried or unhardened paint, that being more quickly acted upon by ammonia-vapour, such as arises from fermenting materials, and by a combination of conditions has an injurious effect on foliage. The use of the long horse manure without proper sweetening is sufficient to account for the mischief, or it may have arisen simply from the new paint. The stem and roots were perfectly healthy. Injury might probably have been minimised, if not prevented, by the admission of a little air constantly, but it is too late now, therefore the lesson is to be more careful in the future.

Jargonelle Pear Trees not Bearing (*J. B.*).—You do not say whether the trees are growing against a wall or whether they are open standards; but in either case, as the growth is rampant, the more closely they are pruned the less likely will they be to form blossom buds plentifully. The summer growths should be so thinly disposed that the leaves of one do not by any means touch the leaves on the other, but on the contrary there should be ample space between the young branches, say a foot at the least, and if these are unshortened natural fruit spurs may be expected to form, provided the trees are in a clean, healthy state. As the position does not permit of root-pruning, the less you cut back the branches the better. The principle to follow under the circumstances is to thin well and shorten slightly, if at all.

Red Spots on Pear Leaves (*Pear*).—The cause of the yellowish—the most numerous—as well as the red spots on the leaves is the Pear leaf gall mite (*Phytoptus pyri*), in each of which spot there is a small cavity occupied by nearly white four-legged microscopic creatures, or bluntly oval bodies—the primary eggs of the cycle—those found later not being more than "buds," and are much larger. The spots are very numerous—indeed, run together—but each has a small opening in the under side of the leaf protected more or less by hairs. All are due to the action of the mites, which in such bad cases as yours greatly weaken the tree, causing the leaves to turn brown or black and fall prematurely. Probably the safest remedy is bisulphide of calcium, made by boiling 1 lb. of flowers of sulphur and 1 lb. quicklime in a gallon of water for fifteen minutes, constantly stirring whilst it is boiling, then allowed to settle, and the clear liquid poured off for use. This placed in a stone bottle and tightly corked in a dark place will keep indefinitely. Dilute with 100 parts of water for use, or say 1 gill (quarter pint) of the liquor to 3 gallons of water, and apply with a syringe, taking care to wet the under side of the foliage, then some will enter the apertures or be held there sufficiently for destroying the mites. The bisulphide solution should be kept off paint, otherwise it will discolour it for a time. Repeat the syringing if necessary, but one application usually suffices to prevent the spread of the infection, but will not restore destroyed tissues to health. If you prefer to use something ready to hand, procure some potassium sulphide and use it at the rate of half an ounce to a gallon of water. It is even more unpleasant in smell and more marked in its effect on paint than calcium sulphide, but there is no objection to either if care be exercised, and both kill mites and surface mildews.

Beetles and Apple Trees (*A. P.*).—The beetles are unquestionably the cause of the damage to the young wood; they feed on the buds or young shoots of various kinds of fruit trees. This species—the clay-coloured weevil (*Otiorhynchus picipes*) is, perhaps, the most destructive of the genus, but is closely run in that respect by the grooved or black Vine weevil (*O. sulcatus*) which is sometimes of a fine coppery hue, especially the males, these being much the smaller, and both are frequently associated. The pests hide by day in the ground (beneath clods or other inequalities) and come out at night to feed. As the beetles are practically wingless their attacks are usually limited in area, and the damage can be much restricted by suitable means. This consists in removing all cover, such as mulching and dead leaves, making the surface fine around the trees, and putting a belt of cartgrease on grease-proof paper round the stems. This will prevent the ascent of the beetles, as they must crawl to gain access to the foraging ground. Then condensed milk tins or similar receptacles may be sunk in the ground level with their rims, and in these numbers of the weevils will seek shelter, or find a watery grave if a little tar water is placed in each vessel. This is a very old practice, slow but sure, as is capturing them by means of shallow wood trays tarred inside, the trays being placed under the infested trees, and the trees sharply jerked after dark causing the beetles to fall into them. Some persons use cloths spread on the ground beneath the infested plants, and in that way capture great numbers, as the insects feign death when alarmed, and are then readily swept into a vessel containing a mixture of petroleum and water. Gas lime has been recommended, but as it may be as fatal to Apple and other fruit trees as to the beetles, is mentioned for avoidance. For applying to the soil you may use kainit, 4 ozs. per square yard; in the case of small trees sprinkling it on the surface from the stem outwards for about a foot all round. Some persons prefer muriate of potash, using about 2 ozs. per square yard, and in both cases the action on the beetles is by the chloride, common salt being the earliest form in which it was applied for the purpose. Another good method is to syringe the trees with soluble petroleum insecticide, and treat the soil for a distance of about 18 inches from the stems, not giving more than to well wet the surface as in watering seed beds. Fir-tree oil and other insecticides may be used in a similar manner, provided they are of a soluble nature, and such as are not likely to injuriously affect the roots of the trees. The insecticide renders the trees obnoxious to the insects, and certainly kills all that

become wetted with it in the soil or out of it. Prompt action is necessary as the beetles, when numerous, destroy the growths in a short time, the trees in any case being much crippled. The beetles have been reared on the land or near it, and not introduced with the trees, or is it likely they would be brought in the mulching, but it is proper to clear that away and similar harbouring material.

Vine Leaves Warded (G. T.).—The Vine leaves are severely crippled by the closely set, indeed run together, excrescences on the under side, and their corresponding indentations on the upper surface. There is neither fungoid or insect presence, the appearance being compatible with an inordinate development of tissue on the swelled surface, and is due to cold, the house having been kept rather close for a time and then suddenly thrown open so as to admit cold air or such amount as to quickly dry and cool the atmosphere, thus producing a temporary chill. Afterwards there is a rush of sap to the part so injured and the growth of the tissues is the consequence, these taking the form of small knobs or warts, which are not materially injurious to the Vines, but diminish their development and power for elaborating food. The warring is rather common this season and is probably due to the changeableness of the weather and the prolonged cold north-easterly winds. As the Vines are making some fresh fibres and have been dressed with the Vine manure they ought to make good progress this season, and we hope they will do so.

Tomato Plant Diseased (E.).—The plant is attacked by the "drooping," "sleepy," or "black stripe" disease, and that is caused by a fungus called *Fusarium solani* or *lycopersici*. It is common on both the Potato and Tomato, and its native hosts are the indigenous Solanaceæ. The fungus has been figured and described in the *Journal of Horticulture*. The malady is very pronounced in your case as that of "black stripe," a long brownish black mark on the stem, which has proceeded from the pith, this being brown and the ascent of the sap cut off, hence the "drooping" and collapse of the part above. The root stem also contains the mycelial hyphæ of the fungus, but it does not appear to have traversed the stem, the outgrowths or conidial condition of the parasite being apparent at the surface, and the spores appear to have pushed their germinal tubes into the stem where they have alighted on it. This is a phase of the fungus not generally accepted, as in the conidial stage it is considered a mere saprophyte, but many so-called lovers on dead matter are the most destructive of living tissues. As regards preventives, there is nothing better than freshly burned agricultural lime, this being stronger and better than chalk lime. About 2 quarters per rod (rather less than 1 lb. per square yard) is sufficient, but double or treble the quantity may be applied with advantage on soils rich in vegetable matter, such as warp and vegetable mould. The lime should be slaked, using only sufficient water to cause it to fall into a fine powder, and at once forked into the soil, incorporating it to a depth of about 1 foot. This may make end of the "drooping," "sleepy," or "black stripe" fungus in the soil, and by using Fostite or some other powder fungicide containing sulphate of copper after the plants are 9 inches high onwards, there will not be much, if any, trouble from the fungus, under generally good cultural management.

Names of Fruits.—*Notice.*—We have pleasure in naming good typical fruits (when the names are discoverable) for the convenience of regular subscribers, who are the growers of such fruit, and not collectors of specimens from non-subscribers. This latter procedure is wholly irregular, and we trust that none of our readers will allow themselves to be made the mediums in infringing our rules. Special attention is directed to the following decision, the object of which is to discourage the growth of inferior and promote the culture of superior varieties. In consequence of the large number of worthless Apples and Pears sent to this office to be named, it has been decided to name only specimens and varieties of approved merit, and to reject the inferior, which are not worth sending or growing. The names and addresses of senders of fruit or flowers to be named must in all cases be enclosed with the specimens, whether letters referring to the fruit are sent by post or not. The names are not necessarily required for publication, initials sufficing for that. Only six specimens can be named at once, and any beyond that number cannot be preserved. They should be sent on the first indication of change towards ripening. Dessert Pears cannot be named in a hard green state. (M. A.).—Reinette Franche. (S. F.).—1, Cockle's Pippin; 2, Sturmer Pippin. (J. J.).—1, Lord Burghley; 2, Northern Spy; 3, Boston Russet.

Names of Plants.—We only undertake to name species of plants, not varieties that have originated from seeds and termed florists' flowers. Flowering specimens are necessary of flowering plants, and Fern fronds should bear spores. Specimens should arrive in a fresh state in firm boxes. Slightly damp moss, soft green grass, or leaves form the best packing, dry wool the worst. Not more than six specimens can be named at once, and the numbers should be visible without untying the ligatures, it being often difficult to separate them when the paper is damp. (T. T. S.).—1, *Daphne pontica*; 2, *Lonicera tartarica*. (J. A.).—*Pyrus elæagnifolia*. (A. V.).—We can give you no further information relating to your specimen. (Inquirer).—1, *Berberis Darwini*; 2, *Streptosolon Jamesoni*; 3, *Selaginella Martensi*; 4, *Osmunda regalis*; 5, *Begonia odoratissima*; 6, *Stenochlæna scandens*. (W.).—*Primula verticillata*. The other matter shall have attention in our next issue. (A. L.).—A good form of *Cattleya Trianae*. (J. L.).—*Primula verticillata*. (J. P.).—*Piptanthus nepalensis*. (J. C.).—*Habrothamnus fasciculatus*. (Telmah).—*Arachis hypogæa*, or Earth Nut, a stove annual with yellow flowers. We will refer to it again in a future issue.

COVENT GARDEN MARKET.—APRIL 29TH.

Market dull. Grapes more than sufficient for the demand. Cape produce to hand in very bad condition.

FRUIT.

		s.	d.	s.	d.			s.	d.	s.	d.		
Apples, per bushel	2	0	to	4	6	Grapes, per lb.	.. ..	1	6	to	5	0
" Nova Scotia, barrel		13	0		20	0	Lemons, case	.. ..	11	0		14	0
" Tasmanians, per							St. Michael Pines, each	..	2	0		6	0
case	10	0		12	0	Strawberries, per lb.	..	4	0		6	0

VEGETABLES.

			s.	d.		s.	d.			s.	d.		s.	d.
Asparagus, per 100	..	..	2	0	to	5	0	Mustard and Cress, punnet	0	2	to	6	0	0
Beans, per lb.	..	..	0	6		1	3	Onions, bushel	..	..	3	6	4	0
Beet, Red, dozen	..	..	1	0		0	0	Parsley, dozen bunches	..	..	2	0	3	0
Carrots, bunch	..	..	0	3		0	4	Parsnips, dozen	..	..	1	0	0	0
Cauliflowers, dozen	..	..	2	0		3	0	Potatoes, per cwt.	..	..	2	0	4	0
Celery, bundle	..	..	1	0		0	0	Salsafy, bundle	..	..	1	0	1	6
Coleworts, dozen bunches			2	0		4	0	Seakale, per basket	..	..	0	9	1	3
Cucumbers, dozen	..	..	2	0		4	0	Scorzonera, bundle	..	..	1	6	0	0
Endive, dozen	..	..	1	3		1	6	Shallots, per lb	..	..	0	3	0	0
Herbs, bunch	..	..	0	2		0	0	Spinach, pad	..	..	0	0	4	6
Leeks, bunch	..	..	0	2		0	0	Sprouts, half siv.	..	..	0	0	0	0
Lettuce, dozen	..	..	1	3		0	0	Tomatoes, per lb.	..	..	0	6	1	3
Mushrooms, per lb.	..	..	0	6		0	8	Turnips, bunch	..	..	0	3	0	0

PLANTS IN POTS.

Arbor Vitæ (golden) dozen	6	0	to 12	0	Ferns (small) per hundred	4	0	to 6	0
Arum Lilies, per dozen ..	6	0	9	0	Ficus elastica, each	1	0	7	0
Aspidistra, dozen	18	0	36	0	Foliage plants, var. each	1	0	5	0
Aspidistra, specimen plant	5	0	10	6	Geuista, per dozen	6	0	10	0
Azalea, per dozen	18	0	36	0	Hydrangea, various, doz. ..	9	0	24	0
Cineraria, dozen pots ..	6	0	9	0	Lilium Harrissi, per dozen	15	0	24	0
Ocyclamen, dozen pots ..	8	0	15	0	Lycopodiums, dozen	3	0	4	0
Dielytra, per dozen	9	0	12	0	Marguerite Daisy, dozen ..	6	0	9	0
Dracæna, various, dozen ..	12	0	30	0	Mignonette, dozen pots ..	6	0	9	0
Dracæna viridis, dozen ..	9	0	18	0	Myrtles, dozen	6	0	9	0
Ericas, various, per dozen ..	9	0	24	0	Palms, in var., each	1	0	15	0
Eunonymus, var., dozen ..	6	0	18	0	.. (specimens)	21	0	30	0
Evergreens, in var., dozen	6	0	24	0	Spiræus, doz.	6	0	9	0
Ferns in variety, dozen ..	4	0	18	0					

AVERAGE WHOLESALE PRICES.—CUT

Anemone (French), dozen bunches	2	0	to	4	0	Orchids, various, doz. blms.	1	6	to	12	0
Arum Lilies, 12 blooms ..	2	0		4	0	Pelargoniums, 12 bunches	6	0		9	0
Asparagus Fern, per bunch	2	0		4	0	Polyanthus, dozen bunches	1	6		2	6
Azalea, dozen sprays	0	4		0	6	Primroses, dozen bunches	0	6		0	9
Bouvardias, bunch	0	6		1	0	Primula (double), dozen sprays	0	6		1	0
Camellias, dozen blooms ..	0	9		1	6	Roses (indoor), dozen ..	1	0		2	0
Carnations, 12 blooms ..	1	0		3	0	„ Tea, white, dozen	1	6		2	6
Cyclamen, dozen blooms ..	0	3		0	6	„ Yellow, dozen (Niels)	2	0		4	0
Daffodils, single, doz. bun.	1	6		6	0	„ Red, dozen blooms ..	2	0		4	0
„ double, doz. bun.	1	6		2	0	„ Safrano (English), dozen	1	6		2	0
Eucharis, dozen	2	0		4	0	„ Pink, per dozen	3	0		6	0
Gardenias, dozen	2	0		3	0	Smilax, per bunch	4	0		6	0
Geranium, scarlet, doz. bunches	4	0		6	0	Spiræa, dozen bunches ..	3	0		5	0
Hyacinth, Dutch, various, per box	2	0		5	0	Stephanotis, dozen sprays	3	0		4	0
Lilac (French) per bunch	3	0		4	0	Tuberose, 12 blooms ..	0	6		1	0
Lilium longiflorum, twelve blooms	3	0		5	0	Tulips, dozen blooms ..	0	4		0	6
Lily of the Valley, 12 sprays	0	6		1	0	Violets Parme (French), per bunch	3	0		4	0
Maidenhair Fern, doz. bchs.	4	0		8	0	„ Ozar (French), per bunch	2	0		3	0
Marguerites, 12 bunches ..	2	6		4	0	„ Victoria (French), 12 bunches ..	1	0		1	6
Myosotis or Forget-me-not, dozen bunches	2	0		4	0	„ English, 12 bunches	0	9		1	0
Narcissi, var., doz. bunches	0	9		2	0	Wallflowers, dozen bunches	2	0		3	0



THE LAMBING SEASON OF 1896.

As the lambing season of 1896 is now at an end, and farmers are beginning to count gains and losses, to see where in the management of the flock they have made a success and where a failure, it is just as well to pass in review the majority of reports contained in the various agricultural papers. England is so essentially a sheep-breeding country that this industry is of paramount importance, especially as corn growing is more or less of a failure.

It is so often the case that in the several districts the reports vary materially, the earlier lambs have so often to contend with most adverse weather, their dams with short commons—i.e., that is of natural food—and consequently they suffer too. The later lambs are born under more genial skies; if there are "lamb storms" they are quickly over, and sun asserts his power more or less, pastures are becoming green, and food of all sorts is plentiful. This year, however, seems a unique one in the history of sheep breeders.

A mild winter; a mild spring, plenty of food everywhere, and that excellent. The anxieties of the lambing season have been

very small, the mortality almost nil, and the crop of lambs extremely good. There is just one word of warning that may be timely here. We have heard of large crops of lambs dwindling down fearfully before they arrive at the Turnip fold stage. The reason is not far to seek. Sheep must not run too thick, must not be too closely pastured, must (quite as much as human beings) have infinite variety in their bill of fare. All this is of course more difficult when the flock is a big one.

We know of many farmers who take the eatage of the lanes adjacent to their farms for the sole purpose of being able to turn the lambs out into them for change of pasture. There is many a bit of good picking on the roadside many a bit of Elder or Thorn or Bramble in the hedge which an industrious lamb will find, and which will act as a wholesome tonic, and also alternative to their own special pasture. Now comes in the value of the Cabbage plot, few lambs go wrong when once fairly broken in to Cabbage. It is no use speaking of the various lamb foods that are advertised in every paper. Each farmer has his own particular fancy and his own favourite manufacturer. At any rate, let them be liberally and wisely fed.

The first record is of Hampshire, and in looking through a list of fourteen well-known breeders it is most gratifying to learn that with one mouth and one voice they all agree that this just finished season has a wonderfully favourable record. Early in the season there were not many pairs, but towards the end the average rose to 40 per cent. of twins. Speaking of ewes lambed on Mangold, one writer says he never had his flock do better.

Where there was a plethora of white Turnips, and the flock masters were so short-sighted as to use them too liberally, mortality among the ewes resulted. With root crops sound, plenty of Rye and Tares (or Vetches) sheep should surely do well. In one flock, roots being scarce, the ewes were lambed on hay, the younger ewes receiving a small quantity of linseed cake. The result was most satisfactory, ewes healthy, lambs strong, milk abundant. The ewe loss averaged 1 per cent.

Of Somerset and Dorset Horned reports are good; healthy ewes plenty of lambs, and as early as the end of January cross-bred lambs were ready for the butcher.

Of Southdowns in one flock the loss of ewes has been under 2 per cent, with a fair crop of pairs; some of the pairs are small but all healthy. One owner of Southdowns out of a flock of 300 has had no case of abortion, and only one barren ewe. Early in the season six ewes were lost from dizziness, the result of white Turnips and Barley straw, but the flock on being removed to grass gave no more cause for uneasiness. One ewe was lost in lambing, and one-half of the ewes had pairs.

Of Oxfords we hear the lambing season has been one of the best on record, ewes in fine form and grand condition. The weather was favourable both before and during the lambing, and there is a large proportion of pairs. One owner complains that the lambs are almost too numerous! Another says he has 35 per cent. pairs, without the loss of a single ewe.

In the eastern counties there have been cases of mortality among both ewes and lambs. A complaint is made of ewes aborting on the grass lands of Suffolk, and it is thought this may arise from the rank grasses in the richer river valleys being covered with a rust fungus. On one farm among Suffolks the mortality has been 5 per cent.; the owner attributes it to the growing state of the Turnips this mild winter.

Of Shropshires we hear of one owner having a flock of 110 ewes, with the following astonishing lamb results:—Seventy eight had pairs, ten triplets, twenty-two had single lambs. In the accounts of ten flocks the per-centage of pairs was fifty-six. The losses have been small, but yet not so small as in some other breeds. The average loss has been 1½ per cent. No one can grumble much at that!

All over the Lincoln district the reports are good. The percentage of pairs varies from 34 to 41 per cent., lambs big and

strong, ewes with plenty of milk to keep them growing. The losses have been about 1 per cent. In North Lincolnshire there has been a great excess of pairs, and one fortunate owner had five lambs at a birth, four of which are living.

Of cross-breds in Lancashire there is an instance given of eleven ewes with twenty-five lambs. From Forfar and Wigton pairs and triplets are reported as plentiful.

From Board of Trade returns it would appear that for the last four years our sheep stocks have decreased. This has been owing to bad seasons, defective food supplies and from the low value both of wool and mutton. The wool trade appears on the mend and this, with the excellent lambing season of 1896, should give encouragement to our flock masters to go on and try to bring up the numbers to something like the old average, or, better still, above it.

WORK ON THE HOME FARM.

Drier influences once more prevail, and we are seizing the opportunity to complete the cleaning of the land intended for Turnips. Fortunately the hot weather in September, where fully taken advantage of, has made the finishing touches comparatively easy, and many fields now require little or nothing doing before ploughing for the last time. The sooner this is done (if under dry enough conditions) the better. Well rolled after ploughing it will retain its moisture better through a dry spell, and come up fresher when ridged for drilling.

Work is now forward enough for us to indulge the hope that the horses may by midsummer be given a long and much-needed rest. Three-year-olds require a little easing about this time, as they often eat badly when changing their teeth, and if a horse cannot eat neither can he work. A strong two-year-old will generally do as much spring work as a three-year-old, owing to the latter's weakness in this particular.

Lincoln Horse Fair has been one of the worst ever known, largely owing to American competition, cycles, and the open winter. Nothing but big town horses met with anything like a ready sale.

Wheats are doing fairly well, but are not so forward relatively as they were a month ago. A few frosty nights, too, have found out the weak places, which are now a trifle yellow. Thistles are again numerous, and require attention before the Wheat gets much higher. Spring corn, Barley and Oats alike, have come and look well. The start at any rate has been a favourable one. A second sowing of Tares has been made, and we are turning our attention to the Mangold plot. The seed must be put in now without delay, May 7th being the latest date if it is to have a fair chance.

A word of warning to owners of foaling mares. These latter are in many cases foaling a week or ten days before the time expected. It seems to be peculiar to the season, and should be provided against by careful attention. It is bitterly disappointing to lose the time and money represented by a dead foal for the want of a little care and watchfulness. It is said that if a mare takes over thirty minutes for foaling there is something wrong, and skilled assistance must be called in at once. These cases admit of no delay.

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METEOROLOGICAL OBSERVATIONS.

CAMDEN SQUARE, LONDON.

Lat. 51° 32' 40" N.; Long. 0° 8' 0" W.; Altitude 111 feet

DATE.		9 A.M.				IN THE DAY.				Rain.
1896 April.	Barometer at 32° and Sea Level.	Hygrometer.		Direc- tion of Wind.	Temp. of soil at 1 foot.	Shade Tem- perature.		Radiation Temperature		
		Dry.	Wet.			Max.	Min.	In Sun.	On Grass.	
Inchs.	deg.	deg.		deg.	deg.	deg.	deg.	Inchs.		
Sunday .. 19	30.475	49.0	47.8	N.	47.0	66.3	38.8	114.7	32.4	—
Monday .. 20	30.431	52.8	48.7	N.	48.9	60.3	41.3	96.2	45.1	—
Tuesday .. 21	30.52.	48.7	45.4	N.E.	48.6	60.0	36.7	103.1	27.8	—
Wednesday 22	30.345	53.1	45.6	N.W.	48.3	66.3	34.8	101.2	27.1	—
Thursday .. 23	30.203	49.2	47.0	N.	49.3	58.8	40.9	103.0	31.9	—
Friday .. 24	30.285	47.3	42.7	N.	48.8	57.9	32.8	87.1	24.0	—
Saturday .. 25	30.087	55.1	49.8	W.	48.2	61.0	44.3	100.0	34.9	—
	30.335	50.7	46.7		48.4	61.5	39.5	100.8	31.9	—

19th.—Sunny and warm all day, but a little hazy at times.

20th.—Overcast early; frequent sunshine during day.

21st.—Brilliant early, and fine sunny day.

22nd.—Sunny all day, but rather hazy; stormy-looking in evening.

23rd.—Overcast with spots of rain in morning; fine sunny afternoon; clear night.

24th.—Brilliant early; smoke fog obstructing sunshine from 11 A.M. to 1 P.M., faint sunshine after; lunar halo in evening. [afternoon.]

25th.—Brilliant early and sunny morning. spots of rain at 0.45 P.M., and overcast. Another fine, average week.—G. J. SYMONS.

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COTTAGE GARDENING; being an Essay

to which the Royal Horticultural Society awarded Mr. W. EGBERTON HUBBARD'S Prize, February 16th, 1870. By E. W. BADGER. Third Edition. Price 3d.; post free, 3d.

JOURNAL OF HORTICULTURE Office, 171, Fleet Street, London, E.C.

**Journal of Horticulture.**

THURSDAY, MAY 7, 1896.

GRAPE CULTURE IN ITS COMMERCIAL ASPECT.*

PROBABLY no subject has been more discussed among gardeners in all ages than the cultivation of the Grape Vine, which is, in my opinion, one of the most miraculously bountiful gifts of a beneficent Creator for the use of man. These present remarks, of course, will be confined to the Vine as grown under glass for producing Grapes for market purposes, although they in some respects might apply to general culture.

We have, no doubt, many times been bewildered by the advice and suggestions offered on the subject of the Vine, and many of us have seen measures of success in its cultivation under conditions most opposite—indeed, I think that the Vine itself is constitutionally adapted to endure widely different environments. But though there are often failures that perplex us, and, I must own it, great successes that astonish us, still they only lead the ardent grower to try and discern a definite method of practice that approaches his ideal of perfection. In considering the culture of the Vine from its commercial aspect we add a different view to the subject, for although growers might all somewhat agree as to methods of culture, and indeed all might be more or less successful, still when the laws of commerce are applied to measure the result I would make bold to say that such a thing as a living wage or profit would be often absent.

There is a very sharp distinction between a gardener—and he may be very able and successful—and a market gardener. The fact is, that when the rules and necessities of business enter the arena, then nearly all our cherished notions have to be squared with cold matters of fact. I shall never forget the first impressions and lessons I gained in Vine growing, in perhaps one of the most noted establishments. There everything was done in a manner that inspired awe, reverence, and mystery, where the Vines were looked on as almost sacred, not to be handled by any but the most experienced man, and then only under the personal supervision of a still more learned foreman of the fruit department.

* Paper read by Mr. PETER KAY, Claiemar Vineyard, Finchley, at a meeting of the Horticultural Club on May 5th.

When I supposed myself to have had sufficient experience in that establishment I came to a real market-growing place near London, then owned by one of the best growers and best of men; but the practical experience I at once had there was of the opposite character, for I was the very first day put to tie down Hamburgh Vines, standing on an empty glass box. This appeared to me to be profane, but I soon found that the commercial aspect of Grape growing was altogether different in its methods from those prevalent in ducal establishments.

There has been a wonderful revolution during the last few years in Grape growing for market, not only as regards prices, but in methods; and if some of our forefathers could see now the large places that have developed from the foundations they laid it would probably astonish them.

While speaking of the older generation I would like to remark that, taking into account the difficulties with which they had to contend, I believe that they over and over again obtained results that we nowadays with our what we deem more scientific ways, and certainly greater advantages, fail often to equal.

All Grape growers of say fifteen to twenty years standing can tell tales of 20s. and even 25s. per pound for Grapes, and such prices as 5s. and 10s. were quite ordinary. Nowadays the prices obtained vary from 6d. to 5s., and yet during those times there were hardly any who launched out into building, or seemed to have had any idea of developing the industry. One can trace easily the evolution of the business to its present proportions.

What has especially tended during the last few years to increase Grape growing is the popularity of the Tomato, for growers now can erect glass, at once growing Tomatoes and thus having the houses in profit, instead of, as in the old days, depending on other crops to tide them over till the Vines came into bearing. This advantage, of being able to have glass immediately in some amount of profit, would seem to point to a state of things that must tend to make the margin of profit on Grapes grow less and less—indeed, during the last three years the fall in prices has been very marked, and as commerce is without sentiment or consideration it leads only into paths where the fittest will survive.

There is no doubt that Grape-growing as an industry in the past, whatever may have been the cultural methods, has from a commercial point of view been carried on in a very homely and in many cases uncommercial spirit. By this I mean that places have been added to from time to time as means allowed, and that profits have been considered as the surplus over and above ordinary expenses, and no notice has been taken of depreciation.

The fact is, that while the Vines are young, say from five to ten years old, the produce both in quality and in quantity is much better than ever afterwards, and that in reality such good years recoup part of the actual capital, and unless considered as such the property becomes by natural depreciation of less value year by year, so that it is wise, as well as right in principle, that when one commences a Grape-growing establishment a proper system should be adopted in order to guard against what are only appearances of profit being counted as real profits. Such profits can only be known when the cash capital is guarded from loss. So that in speaking of a Grape-producing establishment of the present time we have to deal with the circumstances as they now are, and only have the sweets of memory in regard to the past and palmy days.

The great change in the industry has been brought about principally by the enterprise of growers themselves, together with perhaps, during the last few years, a lessened spending power of the would-be consumer. The particular occupation of producing Grapes, or indeed any fruit under glass, with the exception of Pine Apples, is not under the ban of foreign competition so much as most other producing industries.

Indeed, the foreign fruit has probably prevented a greater fall in prices than has occurred, because its cheapness makes it as it were a preparatory pioneer for the undoubtedly superior English produce, and by thus immensely enlarging the consumption of

fruit educating the consumer towards the better article. Here I might remark that the grower who sets a high ideal of quality before him will be the best off in the end, as the prices obtained for best goods is double that obtained for even second rate.

But to come to some more definite statements with regard to the practical procedure towards establishing and carrying on a place for the growth of Grapes for market purposes. In the very first place, the choice of situation, taking carefully into account its suitability to place the grower in the best position towards the markets. Much of the success of a Grape grower for profit lies within the plain ring of common sense, and that points to the immense advantage that a grower must start with if he, in every possible respect, enlists nature and circumstances on his side.

The land would be best that has soil 2 to 3 feet deep, resting upon a subsoil easily drained. There should be ample means for obtaining abundance of water, and equally ample means for getting rid of the same. Whether the land is pasture or arable, is not vital, but of course preferably pasture, then its closeness to means of communication, especially with regard to fuel and carriage of produce to market, and these things may vary so much in different localities that, with all the best conditions appertaining to it, an acre may be cheap at £300, where in another locality it would be dear at £100.

Certainly a most important point must always be the system of tenure. Whether the tenure is freehold, or long leasehold with an option to purchase at a fixed price, does not much matter, and in many cases, provided fixity of tenure is made the first consideration, and the increment of value in the land is protected to the tenant by a fixed purchase sum, the leasehold will be preferable, as the capital can then be used to erect the necessary buildings rather than it being tied up in a less productive form.

Other things being equal with regard to the fitness for Vine growing for profit, it is wise to give preference to land likely to improve into building land, and further, it is a better position that such land as frontages, or other parts of a different value, not immediately necessary for the business, should be conveyed separately, thus not overweighting the enterprise with unnecessary charge, and also thus separating the eggs into different baskets.

We will suppose that the enterprising grower has secured land that he thinks suitable for the purpose, then he will proceed towards the erection of the vineries. Early autumn would probably be the best time to begin, so that the houses might be glazed in readiness for the early spring. The first glass that it is right to build is a propagating house furnished with bottom heat. Then he will be thinking of the sorts of Vines to grow—whether Hamburgh, Alicante, Colman, Muscat of Alexandria, and, if he is of a speculative turn, Canon Hall. These varieties are nearly the only ones that a commercial grower ought to go in for. The other varieties that are grown in less quantities are Madresfield Court and Gros Maroc. Appley Towers and other new sorts remain to be proved; but the beginner must not experiment too much, but grow tested sorts. In my opinion the Alicante, taken as a whole, has been the most profitable variety to grow, not even excepting Muscat of Alexandria and Canon Hall.

It is a Grape of a very uncertain and risky nature, both on account of its constitution and the great difficulty of fertilising it with any certainty. My own experience is that taking houses of equal size, one planted with Alicante, one with Colman, and one with Canon Hall, and taking say five years' result of sales, the Alicante would come out best, the Colman next, then the Muscat of Alexandria, and Canon Hall. This is against the general belief but is true in my experience, for Muscats hardly make up for the lesser weight obtained from them, together with the extra waste in marketing and their special liability to spider and shanking. The grower of Vines for profit must erect his glass houses with the greatest economy, and with no further idea than covering in the greatest area with glass upon the simplest system, consistent with strength and practical usefulness, not

looking to them lasting beyond the commercial life of the Vine, as replanting in the same structure is too expensive to pay.

With regard to the profitable life of a Vine it may vary from ten to twenty years, according to the sort of borders that are made—*i.e.*, houses built together with only inside borders will not carry the Vine through more than ten years profitably, whereas, where they can roam in well-made outside borders their life and vigour are doubled. What I specially mean by outside borders is, not that the Vines should be planted outside, and introduced into the house through the wall, as was the old practice, but that the border should be inside and out, the fronts of the houses resting on piers or arches. Then, by planting the Vines inside, a far better start is assured, and they will soon ramble outside, where the sun and air more naturally prepare a congenial place for them. And while speaking of borders how various and contradictory even are the instructions given for making Vine borders. I am afraid the market grower does not consult the text books much, but makes the best use of the material he has at hand, and adding to it in some cases, where the soil is very heavy, London manure for the sake of its mechanical effect, and bonemeal of high grade quality. A commercial Vine grower does not often use half-inch or larger bones, as a quicker return is possible than they give from the more immediately useable bonemeal. Moreover, cultivators do not so much rely on the depth and richness as upon frequent top-dressings, thus encouraging the roots near the surface.

(To be continued.)

VENTILATING COOL HOUSES—A CRITIQUE.

OUR vivacious neighbours across the Channel in their elated moments seem to derive a considerable amount of satisfaction in launching their shafts of satire at the proverbial tenacity and progressive slowness of the sturdy Briton. They do not seem to understand that as a practical and self-reliant nation we place implicit faith in practical demonstrations, and do not, as a rule, become very enthusiastic over mathematical calculations or scientific theories until we are thoroughly convinced that they show the way to substantial advantages. Then the most startling ideas are taken up rapidly, and clung to with all the tenacity of our national characteristics.

Events are frequently occurring in the horticultural world which prove the truth of the foregoing remarks. A knowledge of gardening is being so rapidly disseminated throughout the land that we are fast becoming a "nation of gardeners," led on from the first faint gleams of that knowledge to a wider and broader view of the art. Thousands upon thousands are finding so constant a source of happiness in its pursuit that they now marvel how the world at large has so long neglected to look on gardening as a boundless source of refreshment and recreation, as well as of profit. With so many busy hands and brains engaged in various aspects of gardening it is not surprising that new and improved methods of culture are brought about in various ways, not always by the acknowledged teachers, but rather by humble individuals, who are striving in an unorthodox way to acquire the elementary principles of horticulture.

Such individuals sometimes, through their ignorance, adopt bold methods of culture, which occasionally pave the way to conspicuous successes, in others lead to complete failure; thus gardeners who are gifted with keen perceptive powers may, from the experiments carried on around them, gather many useful hints, and shape their course accordingly, for all who are wise must see that ours is a progressive art, and that we must be continually unlearning something taught us in our younger days, for we live in an age when old notions are being continually "exploded." The very fact that we often meet with examples of culture of the highest order which have been produced on lines totally at variance with recognised methods, and with far greater ease than we had thought possible, ought to lead us at once to change our tactics, for I take it that the successful men of to-day are those who produce the highest results by the least expenditure of time or money.

It is seldom that I rest contented with any method of culture, however generally recognised as correct, if I entertain the slightest idea that as good or better results can be obtained by simpler means. The result of many experiments has convinced me that a good deal of wasted energy is spent in putting on and taking off air in greenhouses, cool pits, or other structures of a like nature

during the spring months. We have been trained to give too assiduous attention to the matter, and for our pains have in instances innumerable been rewarded with plants comparatively drawn and tender, when they ought to have been sturdy and hardy.

Speaking broadly, one of the chief points in connection with the culture of greenhouse and softwooded plants is to give abundance of air. We have only to consider that the majority of such would thrive perfectly in the open air, if actual frost could be kept from them, to find the key to their treatment. Of course, in the cold foggy days of winter vegetation in the open air makes little or no progress, and as we want the occupants of a greenhouse to be in advance of outdoor vegetation, it is necessary to maintain a growing temperature by the aid of artificial heat; but even then it is an advantage to leave a little air on constantly, except during the prevalence of sharp frosts. Even in the depth of winter we sometimes have days during which the air is so warm and soft, as well as bright, that it seems almost impossible to give too much of it during the daytime. The great things to guard against are cutting winds and a keenness in the air after noon, which betokens a sharp frosty night, then, of course, it is right and necessary to close somewhat early to husband warmth.

As the season advances the time arrives when fires may be dispensed with, for although frequent frosts may occur they are not severe enough to injure anything having the protection of glass. This stage is usually reached from the middle to the end of March. The sun by that time gains power, the days are long, and if occasional frosts do occur they do not last long enough to do harm to plants covered with glass. About this time we often have bright warm days and by no means cold nights, and I often find it an advantage to leave a little air on throughout the night, even at this early season; but let me repeat, the great things to avoid are cutting winds when such prevail, as vegetation of any kind seems to abhor March winds. What air is given then should if possible be on the sheltered side, and there is but little necessity to be continually increasing or decreasing it, as it is surprising how little the temperature of a house fluctuates in windy weather if a moderate amount of ventilation is given and left undisturbed. About the middle of April we often have warm bright weather, when the air is almost as soft and balmy as in the summer time. It is quite safe then to leave both top and bottom ventilators open throughout the night.

I know there are many who will not agree with me on this point, and will conjure up in their minds visions of disaster in the event of a sudden frost, but I do not entertain the slightest fear on that score, for I never yet remember an April or May frost severe enough to injure plants under glass without due warning being apparent to anyone in the least weatherwise. Millions of bedding and greenhouse plants each year become drawn and weakly by coddling through fear of frost, because such often occurs during April and May. The routine of closing houses and pits, and often covering too, is nightly persevered in instead of leaving air on till the time when fires are banked up, and then if there is the slightest doubt as to the safety of plants closing for the night and opening again at 6 A.M. On the other hand, so changeable is our climate that a keen evening air is followed in early morning by a quiet stuffy atmosphere. I do not then hesitate to open to their fullest extent both top and bottom ventilators in cool houses, for I have proved to my own satisfaction that the system of gradually admitting air is not necessary for cool houses at this season of the year, "pet theory" though it is with many gardeners, and an expensive one too, for it prevents plants from growing sturdy and strong, and helps surprisingly in the establishment of a colony of aphides. A dry stuffy atmosphere these pests delight in, the cool fresh morning air is by no means to their taste.

Let us pass onwards from the treacherous weather of May to June. The most timorous, I think, will scarcely think it necessary then to close cool houses to keep out frost, yet there are many good gardeners who dislike to leave houses wide open during the night. I have known houses exclusively occupied by Zonal Pelargoniums partially closed each night throughout the summer. This, I maintain, is not only unnecessary, but quite inimical to the well-being of the plants, as I take it, that glass for such during the summer months is simply intended to protect the flowers from rain, and both flowers and plants from very strong winds when they occur. In modern houses ventilation is so arranged that rain is kept out while abundance of air is admitted. But little attention to ventilation is, therefore, necessary, it is simply a matter of leaving them open continuously, except when high winds prevail.

As I draw to a close these unconventional notes, in fancy I see in the distance a little cloud arise. It looks black and foreboding, and may, perhaps, develop into a raging storm, a storm of words from the avenging pen of some irate scribe. Let the

tempest rage never so fiercely, I shall stick to my ship, comforted by the knowledge that "after the storm comes a calm." 'Tis only in our calm moments that we can think clearly, and a little reflection on the points I have raised will, I trow, cause many to say, "Ah, sure, there is something in them."—H. D.

DRESSINGS FOR CANKERED TREES.

TAR AND PETROLEUM.

Two years ago a friend of mine told me that some of his Apple trees cankered badly, and that he was advised by a mole catcher to use gas tar. He said he followed the advice, and with good results.

About a year since I noticed in the *Journal of Horticulture* that you advised a correspondent to be very careful with gas tar. About that time I painted all the cankerous parts I found on my trees. I applied the tar as you would knotting. I have watched the parts carefully since then, and am pleased to say that not the least injury was done; that apparently there was absorption much beyond the parts painted; that the dead parts become finely demarked from the sufficiently healthy, and at the lines of demarcation the healing has been strong and sound, and I think no molecular changes are going on. The tar has acted as a preservative, much in the same way as creosote acts on large wounds of other trees.

I have thought, with regard to canker, that if the disease is stopped in the soft tissues it breaks out again from infection by the disease not being quite stopped in the deeper parts. Besides, the gas tar not only arrests disease, but preserves until the resisting powers have recovered and repaired. The preserving and penetrating effects are as important as the destroying powers.—R. C., Appleton.

[Gas tar has been used many years both in this country and on the Continent for dressing wounds in trees with good results, as it acts antiseptically and prevents fungal germs gaining a seat therein, and from thence pushing mycelial hyphæ into the adjacent living tissues. When the gas tar is applied carefully to the wound, evenly without running on to the live bark, no injury accrues provided the dressing is given during the resting period of the trees. We have known it applied in summer after the removal of large branches without doing harm. When, however, the gas tar is applied to the live smooth bark of young trees and Vine rods the tar sinks into and destroys the cambial layer (inner bark and outer young wood), thus arresting the flow of the sap, and the part above, in case the cells are affected all round the stem, perishes for lack of nutrient elements. For those reasons we advised the "careful use" of gas tar as a dressing for the wounds of trees, whether caused in pruning or by fungi.

As regards gas tar destroying canker fungus (*Nectria ditissima*) there is no question, as the mycelial hyphæ does not penetrate deeply into the tissues, and therefore is easily reached by an application. Confining the dressing to the wounds and using tar in the winter, or when the cells are not growing, there is nothing cheaper or better for preserving the wood, preventing the access of fungi, or, in case of infection, arresting the progress of canker in forest or fruit trees. It is practically useless, however, against fungi that push the mycelial hyphæ many inches, even feet, into the stems of the trees. When the gas tar is very thin and liable to "run," it can be thickened by adding dry finely powdered clay, forming a sort of cream that can be applied with a brush.

Petroleum, preferably soluble, may be used in a similar manner, and it will also destroy the canker fungus (*Nectria* species), adding dry finely powdered clay to the petroleum to form a cream for applying with a brush, or even as a plaster for coating or filling cankerous wounds. Soluble petroleum is easily made by dissolving 1 lb. of softsoap in 8 lbs. water by boiling, then adding 1 lb. of petroleum and thoroughly amalgamating. This can be formed into a plaster by adding sufficient dry finely powdered clay, or if wanted for a paint thin the plaster by adding boiling water so as to give the requisite consistency. Where petroleum is used in this way there is little danger of the oil penetrating the tissues to the prejudice of the tree, as the clay counteracts the acid reaction of fats and oils, thus preventing induration and damage to the bark.

Wood tar (Stockholm) thinned with boiled linseed oil, so as to form a cream-like consistency, is a good dressing for wounds in trees, and as the tar sinks somewhat deeply into the wood it reaches the mycelia of some fungi of the genus *Polyporus* to its destruction, and without material injury to the tree. When carefully used the tar varnish acts well as a preserver of the wood and preventive of low vegetable growths. Mr. Smee of Carshalton grows Orchids in baskets and on blocks dressed with Stockholm tar,

and the plants seem to like it rather than otherwise. As we have seen both Vines and young trees killed through the incautious use of gas tar, we are induced to counsel thought and care in its application.]

AURICULA NOTES.

My kind friend, D., *Deal* (page 398), will, I am sure, understand my reason, when I give it, for not assimilating all the credit he gives me for the leading stand of twelve dissimilar Auriculas at the London show. Ten of them, and not "the whole," were my own seedlings. The exceptions were Mr. Simonite's "Heatherbell" (white edged), and his "Shirley Hibberd" (green edged), which is a flower of great constancy, of intense purity and refinement, able to carry a dozen pips of equal merit—a gift that, few, if any, of the old green edges possessing, necessitated their being reduced to seven or five of the best pips they had.

The Southern show is usually too early for any weight of our northern blooms to catch it; and if I may say so, the class-long victory of divers old sorts may be due in part to others not being able to come up to time. Even of the best, a plant or two would not be sufficient to rely on for having the flower at its best in quality and condition on a given day; and while there are quantities of George Lightbody and shoals of Acme among the growers, a new seedling is, for often a long time, restricted to only a specimen or two, and so the odds in numbers are against it.

To those not familiar with the little ways of the Auricula it may seem that a few days earlier or later cannot make much difference, but in April indeed they do. The third week in April is worth double the second for speed of the Auricula bloom, and the fourth week is more rapid still. Many a beginner, who thinks on All Fools' Day how comfortably in time such and such a flower will be, lives to find its beauty past before the show day; while heads of buds that to his impatience seem to have no chance of being out get nicely in. It is impossible to hurry on the flower with any good result. It must have its time, and we need patience with it, and confidence in it.

One feature of this season's bloom, little to have been expected in so mild a spring, has been the determined, curious lateness of the selfs. This has been the case in several collections, from Mr. Simonite's and my own in Yorkshire to that of, I fear, almost the only old and enthusiastic Scottish grower left among us, Mr. Kilgour of Blair Drummond. Selfs are usually so early that they leave the latest edged flowers unsupported by the relief of their calm reposeful contrasts. Hence for some years past I have worked for a few worthy selfs, able to flower late and long enough to meet the latest edges, among which are some of the best. This season some of these late selfs, which are of exceeding petal substance, are even yet not in flower (May 4th). Mr. Simonite also has one such in his fine dark self "Raven," late and lasting. The pink self—*i.e.*, in Peach blossom and *Primula rosea* types of colour—is a very tantalising flower. It comes, and goes, not by death, but by a change for the worse after the first or sometimes second year. I have had many hopes raised and disappointed by it, as also has Mr. Simonite. In bud these pink selfs are charming, and in their young expanded bloom ravishingly beautiful, a rich gold tube being a constant quality. But as a rule they do not "die well," as all good selfs should do. Their velvet textures wear, as it were, to calico, and their colour fades like that of fishes out of water.

I have three or four pink selfs only out of many failures, Rosy Morn the best of them, but of deeper pink than *P. rosea*, and they have kept up the freshness of their colour for several years. Also a white edge with a steadfast pink body colour, but, alas! too much like the flesh tint of boiled ham. It is otherwise very brilliant and refined, and I know not how it came, neither how to improve upon it, except by trusting it to evolve a better seedling out of its own inner consciousness and pollen. To cross it with a red self would be to lose the edge, and with an edge of any other body colour the pink would either be affected or disappear.

The second year's bloom of a seedling Auricula is a crisis common to all the edged ones and also selfs. It is a period that Ben Simonite and I call "the distemper year." Some beauties never have it; some beauties come brilliantly out of it; some beauties sink under it, not in life, but in properties. How often have we said, "You remember that lovely new green of last year? It's a beast this time, but it may be only distemper." Then if it pulls through all is well on the whole until that period of age shall come upon it, though perhaps not till after many years, under which old sorts of much standing, like Lancashire Hero, Geo. Lightbody, Colonel Taylor, John Simonite, Pizarro, seem to have waxed shaken and dim, and to have lost their cunning more or less. Some seem to become more difficult to grow, and others that still retain their leaf vigour seldom flower in the high-class character of their more youthful years.—F. D. HORNER, *Burton-in-Lonsdale*.

BELVOIR IN BEAUTY.

BELVOIR CASTLE, the ancestral home of the Duke of Rutland, has long been famed for the beauty of its pleasure grounds and the imposing display of spring flowers, disposed in most cases in charming informality along its picturesque rock-studded slopes. For many years the late Mr. William Ingram found congenial employment in turning to the best account the natural features of the position and beautifying by artistic touches various nooks and dells. He was not slow to perceive that the natural shelter afforded by a lofty crescent-shaped ridge with one point, so to say, resting on the north-eastern spur on which the Castle stands and the other curving to the south-west was an ideal position for early spring flowers, and in the course of time he made ample provision for them. The ridge and slopes are, moreover, well timbered, as they have been probably for many a century, and this has rendered the shelter more complete; yet it is only the crest that is thickly wooded, the trees being more sparsely disposed down the sides of the bold declivity. In some places they have been removed by landslips; but be the causes of the openings what they may, they have afforded opportunities for the introduction of rocks, grass, and flowers, and added charm to the grand natural surroundings.

It is along this horseshoe-shaped embowered enclosure that a walk far below the crest of the ridge, yet much above the flat ground level below, was formed, and on each side of this walk are the flowers; on the right numbers peering from the grass between the trees, yet some in beds for which the soil has been held up, and in one open space where the grass is cut smooth a sort of starry design is formed (fig. 70, page 427) on a steep declivity, and glitters as the sunbeams pass between the trees. On the opposite or lower side of the walk a series of informal terrace-like beds have been formed, the soil kept in position by rocks, which appear to jut out in a natural manner, not only along the edges but all among the flowers. Nor are these mere pin-cushion beds, but large enough in places for passing through and between them on stepping stones.

Between the groups of beds or flowery rock-supported mounds are ever-green and flowering shrubs of various kinds, including Himalayan and other Rhododendrons, Camellias, Azaleas, and a host of others, including bold clumps of Bamboos, not often seen flourishing so well together more than 100 miles of London and on the borders of marsh land that stretches eastward to the sea. Certainly Mr. Ingram, during his term of forty years at Belvoir, left lasting mementoes behind him; and now a gardener not less appreciative of his beautiful charge, nor less competent, reigns in his stead—Mr. W. H. Divers. So much before commencing a little description of Belvoir, and now we hark back for a start.

It was about the middle of April that Mr. Divers, having business in Grantham, was espied near the station in his basket carriage—an appropriate vehicle surely, as illustrative of the great law of compensation which it is said pervades all nature; for it may be expected that during years of practical work the ducal gardener had carried many baskets, so it seemed fitting that a basket on wheels should eventually carry him, with a brother in the craft, too, who in his day was no stranger to baskets of weeds, vegetables, flowers, and fruit. He had, however, nearly missed his share of compensation, for he was just about taking his ticket for Redmile when the basket made for two rolled up to the station.

Redmile, on the line between Grantham and Melton Mowbray, is the nearest station to Belvoir, at least from Grantham, though from the Nottingham side Bottesford Station is the more convenient. Thousands of visitors arrive at these stations, and either walk uphill for about three miles or take one of the conveyances, which seem plentiful, especially during the season of the year when Belvoir is in beauty. They also find an excellent hotel at the top of the hill, almost under

the shadow of the Castle, but not outside the gates of the demesne, for Belvoir, like Drumlanrig and a few other notable aristocratic seats, appears too big for gates, on the north side at least, and their absence gives a welcome to all comers.

Multitudes of persons avail themselves of the grand and graceful privilege afforded, and their appreciation is best shown by the gratifying fact that it is rare to find a flower interfered with or the least damage done to anything whatsoever in gardens, pleasure grounds, or woodland walks. True, opportunities are afforded for indulgence in the irresistible habit of carving which seems inherent in the British race, and knives and trees or other impressionable surfaces come into contact, resulting in initials and dates of varying sizes—the oldest form, perhaps, of registration. The ancient custom does not seem likely to die out, and it will not improbably continue for a few more centuries on this old estate, the more attractive portions of which are, as just indicated, generously open to all who can enjoy the flowery slopes and sylvan shades so delightfully provided by Nature, Art, and the kind disposition of noble owners.

From Grantham to Belvoir, the basketmen's route, the distance is seven or eight miles through an agricultural district of pasture and arable land, the former predominating. The ground is sufficiently undulated and timbered to render the drive pleasant, and stretching away on the right is an extensive vale, apparently as flat as a table as far as the eye can see—a happy hunting ground, no doubt, of lovers of the chase from time immemorial. The route traverses the charming and evidently cherished village of Denton, the patrimony of the Welby Gregorys, whose home is close by. The cottages are numerous and commodious, with ample garden frontages, and still more ground beyond, so well stocked with fruit trees that the large village seemed to nestle in a cloud of silvery blossom.

Onwards, and to the left, is the mansion of Harlaxton, approached by a drive, apparently a mile or two long, as straight as a line could be drawn. There was no time to diverge for a call on Mr. Vinden, the gardener, and to see the most wonderfully architectural garden walls in the kingdom. Shortly Belvoir comes in view, and the approach is through an avenue of Beeches, splendid trees and healthy, each having happily room for development, not spoiled as so many trees in avenues are by murderous overcrowding. Emerging, the pretty Lincolnshire village of Woolthorpe



FIG. 68.—MR W. H. DIVERS.

nestles in the valley on the right, overlooked by the Castle on its Leicestershire eminence above. To reach this we have to cross an extensive lake by a bridge of many arches, and turn and twist through woodland drives, along which pheasants and rabbits seem to know no fear, till we skirt the foot of the huge mound on which Belvoir stands on foundations laid by Robert de Toden, the standard bearer of William the Conqueror, some 800 years ago; but our particular quest is the home of the gardener, commodious and buried in creepers, with gay flower gardens on each side, and its little conservatory bright and sweet—a pleasant home, verily, as welcome as hospitable after a cold drive on a drizzly day.

The afternoon wore on, and as it was evidently useless waiting for the rain to cease entirely, and the sun to shine, a sally was made and the necessary climb to see the flowers. Yes, it is a "climb," for the Castle though so near is 200 feet higher than the level of the kitchen gardens. It is reached by a curving walk flanked with Rhododendrons, even then fading, Daffodils, and other flowers, a foretaste of what is to follow. A massive supporting wall is covered with Vines, Figs, and old-fashioned creepers, and a narrow twisting walk leads to a dungeon-like door in the masonry. The gardener turns the key and we enter, closes the door, and we are in the dark, or with only just sufficient light from a shaft above to show the arched foundations. The shaft is a stone spiral staircase up which we poke our way, and emerge in a garden of flowers—a long, narrow, unconventional terrace garden of Primroses.

Forget-me-nots, Arabises, Aubrietias, Tulips, and Daffodils, backed by another supporting wall covered with such plants as Magnolias, Loniceras, Chimonanthes, Photinia serrulata, Forsythias, Spiræas, and others, many of which look as if they had been there for generations. In the wall was another door, then another dungeon with shaft of spiral steps, and up we go—a little less gingerly than at first—and find another garden full of flowers and another climber-clad wall. We might, if fanciful, call these flowery terraces hanging gardens. They are gardens in stories one above the other, and at the top of the highest is another terrace and entrance to the Castle. It is here where the Duchess, with her well-known kind heart for suffering humanity, shows that it does not end there, for this terrace is the feeding ground for birds, the different kinds of which are provided with food they like best. Charming is the view from here southwards over the three gardens (for they cannot all be seen at once), and down in the dells between the trees, the tops of which are far below us, and which extend in cumulus-like masses into the far distance.

From the eastern end of this elevated garden we find our way into the open—on the great terrace, a large expanse of gravel, supported by the semicircular battlements, which have their foundations deep down in the crest of the bold slope, which reaches to the level land far below. Very "open" indeed is the outlook here to the east and north. There is nothing to obstruct the view over the absolutely flat expanse of country so far as the eye can see. As an example of the nature of the landscape, it may be said that from this commanding terrace the famous Lincoln Minster can be seen on a clear day standing majestically on its bold eminence twenty-seven miles away.

Crossing the north terrace, or carriage entrance, and passing the north-west terrace, with its brass cannon, we arrive at the Castle end of the path first mentioned, as having been formed along the great crescent-shaped slope facing the south, and obtain the first glance of the, to many visitors, principal charms of Belvoir at this season—the spring flowers. The first bright beds are seen at the bottom of a circular dell, more or less arched over with trees, in the shade of which, and on the margin of the dell, shines a hedge-like mass of the fine old shrub *Kerria japonica*, as studded with thousands of its golden rosette-like blooms. Overlooking this dell is a two-storied summer house, one compartment entered from the lower level, the other from the flight of steps that lead from the bottom of the dell to the upper terrace. This small, bright, cosy nook is, we think, called the Duke's Garden, and a delightful spot it is, but only a mere speck of beauty in comparison with what follows.

Journeying westward under a bower of foliage a short flight of balustrated steps leads to the Castle garden. Here the walk widens out, so to say, into a plateau in which large beds are numerous, and on one side a bold sweeping border all filled with flowers that are effective in masses or mixtures from February till the end of May, or from the sparkling of the Winter Aconites to the fading of the Wallflowers, and the waning of the Aubrietias, Primroses, vernal Phloxes, and other kinds that are extensively grown. In its fleecy masses of colour and pleasing combinations this garden is highly effective, and many thousands of plants must be employed in its furnishing.

Following the curving walk for a still further distance from the Castle, with shrubs on the left and glimpses of the lawn between and below them, and the high woodland bank on the right, with informal sprinklings of flowers in the grass between the trees, we arrive at the most beautiful part of these beautiful slopes—a larger and more open expanse of dressed lawn on both sides, especially the left, and greater space between the masses of flowers and shrubs. On the sharply sloping bank on the right the somewhat formal design previously mentioned attracts attention, partly because of its being so well displayed in its position, and partly, as in contrast with the greater freedom of the arrangements, on the opposite side, or boldly—very boldly, it may be said—undulating lawn. The different beds, with unconventional landslip-like terraces of flowers, held up by stones, groups of shrubs with nooks of flower-clad low rocky mounds between them, and thinly disposed trees, occupy a considerable space of ground; and whether viewed from top to bottom, bottom to top, or end to end—in fact, from any position—the effect is, perhaps, unique, especially having regard to the grandeur of the position, and such a scene, taken in its entirety, is probably not to be found elsewhere.

A few of the combinations of flowers in some of the beds will indicate their character. Most of the associations are simple enough, but are not on that account the less pleasing. The beds are numbered for convenience of distinction, and not in the least as indicating their sequence along the slopes.

No. 1 Bed.—A large central mass of Wallflower Belvoir Castle Yellow (Veitch), with a row each of *Heuchera Richardsoni* dotted with Tulip Duchesse de Parme, *Myosotis alpestris* Queen Victoria, double Violet Lady Hume Campbell; edging, two rows of double pink Daisy.

No. 2.—Centre, *Myosotis dissitiflora* alba, dotted with Tulip Keiser's Kroon; edge, two rows of double red Daisy.

No. 3.—Centre, *Phlox divaricata*, with a row each of *Phlox amœna*, yellow Polyanthus, *Aubrietia Leichtlini*; edging, a row of double pink Daisy.

No. 4.—Centre, *Alyssum saxatile* nana, surrounded by, in order

named, *Phlox amœna*, coloured Polyanthus, blue *Aubrietia*, and a margin of double pink Daisy.

No. 5.—Centre a large mass of Wallflower Veitch's Dwarf Dark Red, two rows of *Saxifraga liguata* dotted with Tulip Vermilion Brilliant, two of *Aubrietia Leichtlini*, and an edging of *Arabis variegata*.

No. 6.—Centre, one plant of *Iris foetidissima* variegata, circle of *Heuchera Richardsoni* and Skylark Pansy, three lobes lined out with Golden Feather drawn in at the angles, which are filled with *Saxifraga muscoides*, one lobe filled with Gilbert's Harbinger Primrose, one mixed Polyanthus, and one mixed Alpine Auricula.

No. 7.—Centre a large mass of Wallflower Belvoir Castle Yellow, with a row each of *Saxifraga cordifolia* purpurea, *Erica carnea*, *Myosotis dissitiflora*, and an edging of *Phlox amœna*.

No. 8.—Groundwork, *Phlox divaricata* dotted with *Iris foetidissima*, and edged with two rows of Red Alpine Daisy.

No. 9.—*Heuchera Richardsoni* dotted with Tulip Duchesse de Parme and *Dactylis variegata*; edged with *Stachys lanata*.

No. 10.—White *Arabis* dotted with pale red Hyacinth, and edged with two rows of double red Daisy.

No. 11.—Blue *Aubrietia* dotted with Tulip Cottage Maid, and edged with Golden Feather.

No. 12.—*Saxifraga muscosa* dotted with Golden Feather and double Tulip La Candeur.

Other flowers more or less extensively grown:—*Corydalis cava*, *Doronicum plantagineum*, *D. austriacum*, *Iris pumila* bicolor, *Erythronium giganteum*, *Polygala chamæbuxus*, *P. c.* purpurea, *Orobis verna*, *Gentiana acaulis*, *Sanguinaria canadensis*, *Ornithogalum nutans*, *Narcissi* in variety, and *Anemone fulgens*.

Among the most effective flowers now are grand masses of *Aubrietia Leichtlini*, probably the finest stock in the kingdom, and the beds of *Phlox divaricata*, which the writer has only seen equalled in the gardens of the great Belgian amateur, Mr. Jean Everaerts at Vieu Dieux, near Antwerp. It may be added that a new variety of *Aubrietia* has been sent to Belvoir by Mr. Max Leichtlin, and named in commemoration of his friend, the late Mr. Ingram. *Aubrietia Ingrami* has unusually large bluish flowers with a fainter rose tint than in *A. Leichtlini*, and will be largely increased by Mr. Divers. The habit of the plant is very robust.

The flowering and ornamental shrubs which impart fragrance and beauty to the gardens include *Acers polymorphum* atro-purpureum and *A. Negundo* variegata, *Amelanchier botryapium*, *Arundinaria falcata*, *Azara microphylla* (Vanilla scented), *Bambusa Metake*, *Berberis Darwini*, *dulcis*, and *japonica*, *Camellias* of sorts, *Chimonanthus fragrans*, *Choisya ternata*, *Kerria japonica*, *Corylus avellana* purpurea, *Forsythia suspensa*, *Leycesteria formosa*, *Lonicera fragrantissima*, *Magnolias conspicua* Soulangeana, *M. Lennei*, *M. grandiflora*, and *M. umbrella*, *Olearia Haasti*, *Photinia serrulata*, *Punica granatum*, *Pyrus Maulei*, *Ribes sanguineum glutinosum* and *s. atro-rubens*, *Rhododendron Falconeri*, *Thomsoni*, and others, *Spiræa Thunbergi* and *S. prunifolia* fl.-pl., *Staphylea colchica*, and *Styrax japonica*.

Returning for a moment to the flowers, it may be noted that whereas formerly the beautification of the slopes was limited to such as those above mentioned, now they are followed by others for imparting brightness in summer, and between 30,000 and 40,000 are in preparation for planting in due time. A large section of the walled garden—a slice of an acre or two across the southern end of the kitchen garden—is wholly devoted to flowers, and there in the strong soil Daffodils luxuriate, affording flowers for cutting by the cartload.

Vanishing space permits of only a brief reference to the kitchen garden and glass department. This garden of 8 acres is enclosed by lofty walls, entered by large iron gates, flanked by pillars surmounted by architectural embellishments, the main walks being wide enough for carriage drives. The walls are clothed with fruit trees, bush trees being also extensively grown. The hardy fruit, also the vegetable department, receive the same thoughtful care from Mr. Divers as do the flowers; also, it goes without saying, does the cultivation under glass. There is a grand range of vineries, with mostly ancient Vines, that the gardener is making the best of, and that best will be very good. Peach and plant growing accommodation is limited, but there is no murmuring, endeavour being simply made to turn all available means to the best account; and it is pleasant to see that Pines are not forgotten, a pit being filled with splendidly grown plants.

Another paragraph or two anent the gardener, whose portrait is given (fig. 68). Mr. Divers has won his way to the position he holds by sheer ability, coupled with his high character and educational attainments, the latter no doubt being largely self-acquired. A good and accurate penman, draughtsman, and arithmetician, with a knowledge of plants, shrubs, and trees that enables him to name nearly all with which he comes in contact at sight, and an all-round cultivator of the first order—these are qualifications that, plus intelligence and good judgment, bring gardeners to the front. "Not all of them," it may be interjected. True, but there is another truth—namely, that those who are in possession of essential qualifications have undoubtedly a better chance of preferment than others who possess them not when the time of testing comes.

A fact bearing on the point is perhaps worthy of record, in which two good men, then foremen, were the chosen pair from which one had to be selected as the successor of another gardener of high calibre and attainments, Mr. Owen Thomas. This was when he left Impney for Chatsworth, which he won after a searching test of his capacity and examination of his work, not in the least by any favour or patronage. The proprietor of Impney (John Corbett, Esq.) first sent for Mr. Divers, then on a subsequent day for Mr. Richard Parker. The writer happened to be at Impney on the "Parker" day, and was asked by Mr. Corbett if he knew the two candidates. Mr. Divers he knew, and the admirable work at Burghley. Mr. McIndoe he knew, and the splendid produce grown at Hutton, but did not know Mr. Parker, and did not envy Mr. Corbett of the decision he had to take. "Well," was the rejoinder, "Mr. Divers I have seen and like him in every way. I would engage him but for one thing, and may engage him yet, but I think I gave Sir Joseph Pease to understand that after his testimony of Parker's ability, if I liked the appearance and demeanour of his foreman, I would engage him. He is coming to see me this morning."

On returning to the gardens Mr. Parker was there. He was "shown through," diagnosed (and no doubt knew it) by leading questions and observations, such as old hands are apt to employ in the most casual way for measuring their man. The promenade over Mr. Parker was sent to face the music. "He'll do," said Mr. Thomas, "he's all there, and as Mr. Corbett will keep his word Parker will get the place" and he did; but just a little more has to be added. Mr. Divers went to Ketton, and gardeners who saw his work there will agree they had seen no better. Then came the Belvoir vacancy and also the Goodwood vacancy, and the end of it was the two clever foremen who were put through their facings at Impney in 1884 became gardeners to Dukes, Mr. Richard Parker to the Duke of Richmond and Gordon, Mr. William Divers to the Duke of Rutland in the self-same year; while the third man of the trio mentioned is at Royal Windsor. Not chance, not patronage, but ability and accomplishments have placed them where they are, to remain, it is hoped, happy and prosperous for many years to come.

Just a few more lines. Asking Mr. Divers about his origin and experience, he replied concisely as follows:—"I sprang up at Wierton, where my father was gardener over forty years. From there I moved to Linton Park, then to Brantingham Thorpe, Sandbeck Park, Hatfield House, Tandridge Court, Burghley Park, Ketton Hall, and finally to Belvoir Castle in the spring of 1894. That is the whole round, with three short terms in Messrs. Veitch's nursery, where I gained much knowledge and experience." Here may be appended a prophetic utterance that Mr. Divers may perhaps hear about for the first time:—Thirty years ago or more two great men in the horticultural world went on a visit to Linton Park, and from thence the late Mr. John Robson conducted them to another estate. Pointing to a youth in the gardens, he said, "I want you to watch the future of that young man, who, I quite expect, will distinguish himself. He is above most young men, studious, diligent in obtaining exact knowledge, persevering, and industrious, and, I think, must win for himself a good position." The "young man" was Mr. William H. Divers, one of the visitors Dr. Hogg; and of both I am happy in being able to subscribe myself—AN OLD FRIEND.

YOUNG GARDENERS.

THEIR HOURS AND HABITATIONS.

I AM glad this subject has not yet been allowed to rest, and I feel sure that beneficial results to our young gardeners and garden labourers will result. The Saturday half holiday is a boon to the men in this establishment, and we lose nothing; the work does not suffer in consequence, the men make a spurt on Saturday morning to finish off what we require to have done to render all tidy and satisfactory over the week end. On the other hand, I am inclined to think we gain by the half holidays. On two or three occasions I have said, when pushed, we must have this done before Saturday if possible. The response has been, "We will stay half an hour longer to-night, or come earlier in the morning." Such conduct on the part of the men is not overlooked.

The whole of the men on this estate leave off at 1 P.M. on Saturday—mechanics, forest men, as well as those engaged on the roads and home farm. I made no plea in my first notes for these men in the pages of a gardening periodical; besides, this matter rests entirely with those who have the charge of those departments. As a rule gardeners are the best educated men employed on an estate, and why should they not be leaders, not mere followers? Why should the garden suffer because others refuse to follow improved and the enlightened methods of arrangement that the times demand?

Stable-men and keepers are differently situated, both often have hours in the day when they have little to do; but a good lot of night work. These we may dismiss from our consideration. Wherever I have been these men work on totally different lines to the garden and estate men.

As a rule we do not work overtime in the garden, except when circumstances compel us to do so, and these times ever will occur occasionally with gardeners. When we work overtime it is, as a rule, to pull up for lost time on the part of the men. I have always practised

giving the men an hour or two, a day, a few days, or a week, as the case may be, when they ask for it. Times come when men require these favours, and I find when granted the men willingly make up the lost time. I have known men desire to get up earlier in the morning, work at dinner time or after tea to push on the work, when they want a day or two. I admire this "give and take" business, and find the men, as a rule, take more interest in their work, work harder, and study the chief's interest better when they find consideration is extended to them. The work goes on smoothly and well without grumbling, as was too frequently in the past, and is still in some places, where men have their "nose on the grindstone" from year's end to year's end.

I do not believe very much in overtime, the ordinary hours of the day are ample, and very little extra work, if any, is done by lengthening the day by two or three hours. The whole of the men on our estate are paid for overtime, whether they are hay making, sitting up with cattle, or attending to them on the Sunday. In my own department I do not pay for overtime without the work is of an extra nature, then it is paid for. I prefer to work on the lines indicated, and I am proud to think we have not a man in the garden at the present time who would grumble if asked to stay to pull up work in a backward state without remuneration. I am willing to admit there are solitary exceptions when men grumble, even if they had their own way about everything they would be dissatisfied. These are the exception, not the rule.

These and many other details need consideration according to circumstances. It is only a matter for each individual chief to arrange how the work shall be done on Saturday afternoon and Sunday. I want, however, to remove any impression that we give the Saturday afternoon in order to make up for lost time on the Sunday morning. Our object is and always has been to reduce the Sunday work as much as possible. In large gardens where thousands of Strawberries and other plants are on shelves in the houses and pits they need a good deal of attention between Saturday at noon and Monday morning. I prefer for all to do a little on Sunday morning rather than make a day of slavery for the two or three men on duty. It is equally fair to all. The syringing and watering by the men of their own charges do not hurt the men, and is an advantage to those on duty. The men have done in time for church or any other place they wish to go to. If a man wishes to go away he makes his wishes known, and his share of the work is arranged for.

I do not wish anyone to follow our example in this respect; we do not object to varying details when the object attained is practically the same. I may say, however, for eighteen and a half years we have arranged the Sunday duty on the same principle, and it has always worked satisfactorily and agreeably to the men. I am always open to consider from my men any objection they bring forward, and if for the good of the majority am pleased to adopt it from whatever source it may spring. If a man can do the same amount of work in nine or ten hours a day or less, what advantage is achieved by keeping him an hour or two more? I do not believe in long hours; not one scrap more work is done—if the men are made to grasp that so much must be done they do it with better grace in nine hours than they would in twelve.—WM. BARDNEY.

I HAVE read with great interest the numerous letters that have appeared on the above subject, and I am pleased to see there are some who do not look on young gardeners in the light of automatic machines; but unfortunately all are not so thoughtful.

For my part I have only had the good fortune to live at one place where the head gardener did not want the young men to work overtime without paying them for doing so, and also saw that they were comfortable in the bothy. He liked to see them thoroughly enjoy themselves when the day's work was done with a game of cricket, football, or any kind of amusement; and it was no trouble for him to get them to put on an extra spurt when very busy. At another place I lived at, as soon as the days were long enough to work an hour overtime, out we had to go and work till dark with the exception of Saturday, on which day there was so much set out, that with all the "spurts" the young men were capable of putting on, they could not manage to get done till an hour or so after the proper time of leaving off, and no extra pay whatever was allowed. If we did not care to do it—well, the one who objected could simply make room for someone else, and that has been more or less the rule with four or five other head gardeners I have lived with.

Some of the places where young gardeners have to make their home for the time being are very bad indeed, with only a boy (or not that in some establishments) to do the cooking and other work of the bothy, which is most unsatisfactory, for what can a boy know about such work? I think that every bothy ought to be provided with a woman to do all the necessary cooking and cleaning.

Half holiday would indeed be a great boon, but I think the majority of young gardeners would be satisfied if they had the other evenings to themselves, with half a day's holiday given them occasionally (without asking) to go to flower shows, cricket and football matches, or to see round other places, with a week or so holiday in the summer or autumn. I notice in the majority of places the head gardener likes such amusements as stated above, and sauce that is good for the goose is also good for the gander. If head gardeners would study young men's comfort and little enjoyments more they would get repaid by the latter taking more interest in their work, and any extra duties that occurred would be done willingly.—ANOTHER SUBORDINATE.



ROSE SHOW FIXTURES IN 1896.

- June 17th (Wednesday).—York.†
 „ 18th (Thursday).—Colchester and Isle of Wight (Ryde).
 „ 24th (Wednesday).—Reading (N.R.S.)
 „ 25th (Thursday).—Hereford.
 „ 27th (Saturday).—Canterbury and Windsor.
 „ 30th (Tuesday).—Maidstone and Sutton.
 July 1st (Wednesday).—Croydon, Ealing and Leatherhead.
 „ 2nd (Thursday).—Eltham and Norwich.
 „ 4th (Saturday).—Crystal Palace (N.R.S.)
 „ 7th (Tuesday).—Wolverhampton.†
 „ 8th (Wednesday).—Canterbury (Hospital Fête), Chelmsford, Hitchin, Lee,* Newcastle-on-Tyne,† Redhill (Reigate), and Tunbridge Wells.
 „ 9th (Thursday).—Helensburgh and Worksop.
 „ 15th (Wednesday).—Ulverston (N.R.S.)
 „ 18th (Saturday).—New Brighton.
 „ 21st (Tuesday).—Tibshelf.
 „ 30th (Thursday).—Trentham.
 Aug. 5th (Wednesday).—Chester* and Chesterfield.
 „ 19th (Wednesday).—Shrewsbury.*

† A show lasting three days. * A show lasting two days.

I am sorry not to have been able to issue, as promised, a list of fixtures in April. Any dates not appearing in the present list I shall be glad to publish in the next one. I regret to announce that there will be no Rose show held at Gloucester this year, owing to the small pox epidemic prevailing there.—EDWARD MAWLEY, *Rosebank, Berkhamsted, Herts.*

MARÉCHAL NIEL *versus* PERLE DES JARDINS.

I DESIRE to add my mite to the discussion going on concerning Maréchal Niel and Perle des Jardins. I have had them growing side by side under glass both in Surrey and Berkshire. The Maréchal to my mind is unapproachable in many ways, but, dare I say it? is an impostor when he poses as a Perpetual. When he blooms, I admit he does the thing handsomely. I hear there is a plant here in Reading which inhabits three houses, and comes into bloom there successively, and thinks nothing of giving its 900 flowers. But I do not think I have ever known the Maréchal bloom a second time either under glass or in the open; whereas Perle des Jardins, though an inferior Rose, has given me three distinct and very excellent sets of flowers under glass in the same season.—A. C.

ROSE CLOTH OF GOLD.

IF I have not said anything regarding this Noisette in recent contributions to the *Journal of Horticulture*, it is because I have never seen it anywhere in the perfection of beauty which “D., Deal,” on page 374, so exquisitely describes. I gave this Noisette a trial on the south wall of my garden for several years, where Lamarque blooms splendidly every season, and where Climbing Niphetos has proved an invariable and gratifying success. During all that period Cloth of Gold did not produce a single bloom; it grew, however, with remarkable vigour, if this characteristic was any consolation, and produced beautiful foliage of a deep shining green. But as this constituted its entire achievement, I transferred it from my garden to the central conservatory at Logan House, where, under more favourable atmospheric conditions, I hope it may do well. It is curious that Lamarque, from which Cloth of Gold was originally derived, should be so much more reliable than its offspring; likewise that the latter, when it does appear in its integrity, as it has sometimes done in Nottinghamshire, Kent, and other English counties, should have been so much larger and deeper in colour than the parent Rose.

Cloth of Gold, which, as your correspondent indicates, is usually called Chromatella on the Continent, has always bloomed magnificently in the South of France. The late Mr. Thomas Rivers has a memorable eulogium of it, the “Rose Amateurs’ Guide.” I presume the special Noisette approximating in grandeur to Chromatella, to which Mr. Rivers has also referred, is Maréchal Niel (descended from Cloth of Gold through Isabella Gray), which, as we are informed in that comprehensive work, entitled the “Rose Garden,” was first introduced into England and exhibited in London by Mr. William Paul, who was also, I understand, the introducer of that invincible variety Gloire de Dijon.

A hardy, free-flowering Maréchal Niel, with the erect blooming characteristic of Cloth of Gold, less subject than either to atmospheric influences, and more perpetual, would undoubtedly prove an inestimable acquisition. But at present I see no signs of the appearance of such a phenomenon.—DAVID R. WILLIAMSON.

OCCASIONAL NOTES.

I DO not remember, at all events in the last ten years, such a satisfactory pruning of Roses as that which has been lately concluded. The

combination of thoroughly ripened wood with almost entire absence of frost gave such firm shoots with white healthy pith, that I have been able to leave such varieties as require less severity with considerably longer shoots than usual, and I hope they will profit by it. In such cases most of the strong buds which push from the old wood should be rubbed off, or the advantage of the longer pruning will be lost. Many of such gross shoots from the old wood will not flower at all till late in the season, and will then be disappointing in themselves, besides having robbed the young wood of much sap and vigour.

Many aphides are showing on the young shoots and bursting buds, and as they are wingless it must have been in sheer despair of accounting for their presence, that old gardeners laid all such things to the account of the general enemy, the east wind. They are easily kept under by the man constantly on the watch, who never lets one pass, or leaves one on a shoot: Poor little things! very easily killed! It reminds me of a long time ago when a friend gave me a day on his noted snipe marsh. I soon brought down a snipe with a really long shot, with which I was well satisfied. “Poor little thing!” said my friend, picking it up, “it takes but a slight blow to knock them down.” “Yes,” said I, a little nettled, “but the job is to give them that slight blow.” So is it with the aphides, let finger and thumb show untimely mercy, and they will soon be out of range of such primitive weapons.

The inserted buds of my standard maidens have been terribly harassed by grubs and caterpillars, not one in a dozen I should think escaping. I am quite convinced that it is good policy, when time can be found, to search the standard stocks in the spring before budding, and destroy the grubs. If this is not done, what a quantity of these destructive moths are propagated in the very spot where the precious buds will be next year! Though they are not often seen, I have lately come across two or three flitting among the standards, but did not catch one of them. The flight is so very zigzag and uncertain (worse than the snipe!) that a bat wildly waved is likely to do more harm than good, and do what I would I could not “mark them down;” they seemed suddenly to vanish. The zigzag flight, which of course is done by beating the wings alternately instead of “in time,” is no doubt an inherited “protection,” gained by Darwin’s law of the survival of the fittest. A flycatcher, accustomed to straight flying insects, can seldom catch a lumbering butterfly or moth, and, knowing the difficulty, generally does not try. I find my sight is getting hardly good enough to find the tiny grub in the curled bud; it is a much more ticklish job than budding.

As to yellow Roses, no doubt Perle des Jardins is a better colour, and more generally available, in the autumn than Maréchal Niel; but the latter will bloom well at that time on a standard in the open if the buds can be kept dry. I do not think Cloth of Gold so good in colour, or shape, or anything else; its shyness in blooming and general rarity have given it, I think, a fictitious value.

I think it was Mr. Geo. Paul who strongly recommended some years ago raised beds for Tea Roses; and most gardeners in making a Rose bed would raise it several inches above the general level. In heavy soils this may be desirable, but in ordinary cases, especially with amateurs who do not recognise slow and gradual changes, I would recommend that the bed, when consolidated, be no higher than the general level of the ground, and if surrounded with grass even below that level. The “denudation” that geologists speak of as continually taking place on all our mountains proceeds at a very rapid rate indeed on a Rose bed, subject to heavy waterings, frequent hoeings, and parings and clippings of the grass edges. I have seen cases where in a very few years the roots of the Roses have “come to the surface” in a mysterious way, and the point of juncture between stock and scion, originally below the surface, has appeared some inches above it, in both cases to the very great detriment of the plants. Of course a yearly renewal of the surface by a top-dressing might equalise matters, but I do not think it is good for the roots to be gradually brought to the surface, and then covered up again. I much prefer a flat bed, where there is no such denudation.—W. R. RAILLEM.

ROSE GROWING.

(Continued from page 401.)

Sports.—Besides being raised as seedlings, new Roses occasionally come from a “sport.” Sometimes a branch will develop a flower quite different from all the rest on the bush. If this branch is marked and budded from or grafted it is very likely the new variety will be “fixed.” Thus the Pride of Reigate, that remarkable red and white striped Rose, was obtained from the Comtesse d’Oxford, a red Rose; and thus Mr. Prince obtained his pure white S. M. Prince from the pink Souvenir d’un Ami. There is, however, always a danger of a relapse to the old type. Nature dislikes being interfered with. “If you turn her out of the front door she will very likely come in at the back!” I myself have had lately a very singular experience. I budded Climbing devoniensis on a Cheshunt Hybrid under glass. The result was a crimson Rose with pointed bud, but with no devoniensis about it. I have put in many thousand buds, but never before knew an instance of the stock changing the nature. A branch has been sent to Mr. George Paul, who considered the matter worth investigating.

Reproduction.—In respect of reproducing existing varieties, budding of course is the easiest and most speedy procedure. Grafting is also

largely resorted to by nurserymen, and some new Roses are thus started which are rather enfeebled. It is an easy plan also in the autumn to insert cuttings about October, when the ground is still warmer than the air is becoming. If put in under a bell-glass the majority are sure to strike, and will make capital little bushes for planting out by the following June. The origin of one Rose, the Moss, has been poetically related.

Watering.—I am not a strong advocate for watering. Unless done continuously it draws the roots up to the surface, only to suffer the more seriously when a drought sets in. Well-established standards and bush Roses, with tap roots, will stand a great deal of dry weather without flagging, especially if kept syringed, a thing I was always particular about with my exhibition Roses, as soon as the sun was off them. Plants drink largely through their leaves, and rejoice in these being well wetted. In town gardens, with a hose, they should find themselves in clover, but, unhappily, for the most part have largely favoured rivals. Where water can be turned on amongst exhibition Roses I have seen barrels sunk amongst the beds at intervals, and excellent manure water thus manufactured for them. Even then nothing else can make up for the want of rain water, or vie with it when it comes in the shape of a thunderstorm; electrical rain is the one best of all.

The greatest success I ever scored at a show came about in this way. I remember the evening before a big Rose show—it was after a fortnight's drought—inspecting my Rose beds with despair, and determined it would be utterly folly to think of exhibiting on the morrow. Two or three hours after there came up a heavy thunderstorm; it rained half the night. The next morning, by 9 A.M., my garden was utterly transformed. I could cut and come again, and have spare blooms in abundance. That day I won two first prizes in classes open to All England, beating with my modest box of twelve (I seldom show more) amateurs and nurserymen from various parts of the kingdom, men who had as many thousand plants as I could count hundreds; but I seemed to have had that delightful thunder rain all to myself.

Very hot weather is most trying. Then I used to purchase straw hats by the dozen, and comfortable wearing the Roses all found them. In wet weather, on the other hand, tin caps are required, and are almost essential if Tea Roses are to be exhibited. A single soaking shower may utterly ruin the tender petals of a high-class Tea. Umbrellas are useful both in rain and sunshine. It was a standing joke against me in Surrey that a friend was prevented from calling at the Vicarage by the vast array of parasols he saw about the grounds. He thought a large garden party was going on, and did not like to intrude! If fine blooms are to be obtained manure water must of course be given when the Roses begin to show colour, but not when very dry, or to young and delicate plants. Babies are not brought up on beefsteaks and porter.

Exhibiting.—I have already glanced at this, but some few further words may perhaps be admissible. I am prepared to go rather further in the way of advice than that cautious gentleman who was so resolved that his rival should not make much out of him. "In growing," he answered, "for exhibition we find that everything depends on everything else, and we act accordingly." I have had a long experience. I learned first "how not to do it" when I began showing my Roses, some pronounced "pretty, but quite too small!" The next year I took Paul Neron, La Reine, Edward Morren, and nine others of that calibre. These were pronounced "coarse and quite too large!" When I had learned the right size and proper manner of setting up, then came perils of journeying. Sometimes on arriving my box of twelve would have only three or four presentable; the rest would have succumbed to the heat of the weather. My box lid had been made too shallow, and when that was rectified, and with the spare bloom box also well ventilated, then I found that many fair seeing Roses were quite unreliable.

"Beware," I find in my note book, "of Comtesse d'Oxford and all the Victor Verdier tribe!" Even Chas. Lefebvre is not quite to be trusted; and fair La France has more than once failed me cruelly. Annie Wood, though solid looking, is absolutely unreliable. Again, there is great danger where Roses have been cut for some time; under such circumstances they will go to pieces very suddenly. The best box of six Teas I ever sent to a show—it was at Bath—had in it a superb Rubens, but it had been kept too long. One of my rivals, who was looking at the box with dissatisfaction, told me afterwards—I was not there—that just before the judges came round, to his great delight, he saw this Rubens suddenly collapse and slide down like a snow wreath. It was at once replaced with a smaller Rose, but the character of the box had been hopelessly ruined, as that good old lady said of something else, under some other circumstances, "You might write 'knickerbocker' over it; its glory was departed!"

The style of Rose I used to select latterly was a good fat stout one like Star of Waltham. Marie Rady is trustworthy, so is Marie Baumann. Maréchal Niel is always reliable, and is by far the most generally useful of all Roses. An exhibitor should grow more of this than of any other sort. On one occasion at the Crystal Palace, when I gained two first prizes and a third, there were eight Maréchal Niels in my twenty Roses—one in the first prize box of twelve, one in the six Tea box, and the rest in the six yellow of any kind, which came in an easy first on that occasion. The Maréchal is a good all-round Rose, and a marvellous progeny for that mean little Isabella Gray to have had. That was a very "one horse affair" at the best, whilst the Maréchal is what the Americans call a "whole team, and a dog under the waggon!"

—ALAN CHEALES.

(To be concluded.)

GARDENERS' ROYAL BENEVOLENT INSTITUTION.

WORCESTERSHIRE BRANCH.

THROUGH the kindness of the Right Honorable Earl Beauchamp, President of the Worcestershire Branch of the above Institution, the beautiful grounds and gardens of Madresfield Court were thrown open to the public on the 30th of April, a small charge being made at the gates, the receipts of which will be forwarded to the Institution. The privilege was highly appreciated.

The great centre of attraction was of course the flower garden with its thousands of spring flowering plants. The splendid rockery was largely visited. Mr. Crump seems to have got all the best varieties of alpine and rock plants in their proper homes. A mass of the hardy Cypripedium in a sheltered nook is doing well. In the water at the foot of the rocks are aquatics, and around the margin Osmundas and other moisture-loving plants. The famous avenue of *Picea nobilis glauca* was at its best.

Among the many improvements made at Madresfield are large plantations of flowering shrubs, not a shrub here and there, but masses of a hundred square feet of each family, as *Berberis* of sorts, Lilac, Spiræa, Laburnum, Cytisus. Very prominent is the new *C. Andraeanum*, *Deutzias*, *Azaleas*, and *Rhododendrons* in variety. A large mass of *Iris* in many varieties are just commencing to bloom, and promise to be grand in a short time. The new herbaceous garden recently planted is another feature of this extensive place. Every variety worth having is here, growing with that luxuriance that betokens that they are properly cared for. As I was privileged with a look through the houses and kitchen garden, which were not open to the public, everything was looking remarkably well under glass and in the kitchen garden.

I may say that Earl Beauchamp takes great interest and delight in his magnificent gardens and estate. For his generosity in throwing his beautiful place open to the public for the above object he deserves the thanks of all.—J. W. S.

WHITE AND GREEN CUCUMBERS.

SOME years since I wrote to you, stating that a green Cucumber plant yielded white fruit, and I wish now to inform you that this white variety is lapsing into its original green state.

As it seemed probable to me that the lapsing would take place in time, I used great precautions during its cultivation to keep it distinct from the green sort. I may now give you the particulars of that cultivation.

In each of nine years I have grown four plants of the white variety on a separate bed, though about 4 yards from another bed with green Cucumber plants. During eight successive summers all the former have borne abundantly only white fruit. In the ninth year I had four plants as before, but whilst three of them produced white fruit, the other bore pale green fruit.

This change from a white to a greenish fruit does not seem to me quite established, for the colour was pale or pea-green, instead of the dark green of the Cucumber from which the white fruit came originally. Where this lapsing fruit rested on the soil it was whiter than the common Cucumber under the like circumstances. Moreover, the young fruit to 3 inches in length was white at the stalk, and gradually became greenish as it grew. Farther, the fruit when ripened (one being left for seed) obtained a uniform golden yellow colour, as do the white Cucumbers, and was not mottled as in the green Cucumber in that state.

The thought may occur to you possibly that the plant bearing the pale green fruit was derived from a seed of the green Cucumber, accidentally mixed with the white seed. Such an opinion will probably be the general one, but I took the greatest care to guard against the possibility of error from that source in each of the years during the time mentioned.

I have prepared and preserved during the winter the seed of the white Cucumber, have planted the same in pots next spring, and have afterwards transferred them to a permanent bed; and as this was done by myself I am more confident than I should otherwise be that there was not any accidental mixture of green with white seed.

To me who have witnessed the characters (described above) of the pale green fruit there is no doubt in my mind of that fruit now returning to its original condition after a period of a few years. It will be interesting to observe further whether the plant bearing this season the pale green fruit will yield green or white fruit next summer. I have preserved seed of this lapsing Cucumber, and shall plant it as I have done before, and the result I shall be pleased to send you if it will interest you.—GEORGE VINER ELLIS.

P.S.—The above notice was written at the end of last year, but illness prevented me sending it to you. Since December I have become blind, and shall therefore be unable to conduct the experiments I have promised; but I will entrust them to a person in whom I have confidence, and I shall hope to send the results to you towards the end of the year.—G. V. E.

[We regret exceedingly the calamity that has befallen a careful observer, and trust the loss of sight will not be permanent. We do not attribute the change to the mixing of seed. It may have been effected by the transference by some means of a grain of pollen from a green to a white-fruited plant, and which exerted its influence in the direction indicated; or the change may be a case of reversion. Perhaps some of

our readers may have something to say on the subject, and in any case we shall be glad to have, in due time, the results of this year's experiments. We have grown Cucumbers that were pure white and greenish white, and have heard of a fruit half white and half deep green, but have not seen one.]



WEATHER IN LONDON.—The weather during the past week has again been very dry. The days have generally been warm, but the nights have been decidedly cold. On Friday night and Saturday a very cold wind prevailed. Rain is fast becoming badly needed in many districts.

WEATHER IN THE NORTH.—With the exception of slight showers on the 28th ult., and in the evening of the 1st inst., the week ending Tuesday morning has been marked by dry, fine, and generally warm weather. Saturday and Sunday were both very pleasant days, and in brightness and warmth Monday exceptionally so. Tuesday morning was dull and cooler.—B. D., *S. Perthshire*.

SATURDAY HALF-HOLIDAY AT CHISWICK.—We understand the Council of the Royal Horticultural Society has decided that all persons employed in the gardens at Chiswick are in future to have a half-day's holiday once a fortnight. By splitting the men up into two batches, one of which remains on duty whilst the other is on leave, the difficulty of putting things straight in readiness for Sunday is surmounted.

DEATH OF M. L'ABBE DELAVAY.—The French journal "Le Jardin" announces the death of l'Abbé Delavay, missionary at Yunnan, to whom we owe the introduction of many new and interesting plants. His name is perpetuated in the beautiful *Incarvillea Delavayi*, which attracted a good deal of attention at the Temple show last year, when a first-class certificate was awarded it.

GIFT TO SHEFFIELD BOTANICAL GARDENS.—We learn that His Grace the Duke of Norfolk has just presented twenty-five large Palms and Ferns to the Botanical Gardens at Sheffield from his hothouses at Arundel. Some of the tallest were 25 feet high, and the heaviest half a ton in weight. *Sabal umbraculifera*, *Latania borbonica*, *Dicksonia squarrosa*, *Cibotium regale*, *Cyathea medullaris*, *Seaforthia elegans*, and *Cordyline indivisa* were some of the more notable kinds.

CALCEOLARIAS FROM HARROW WEALD.—The several flowers of Calceolarias that have reached us from Mr. W. Rapley, The Gardens, Harrow Weald House, Stanmore, are such splendid ones as to easily uphold this grower's excellent reputation. There are size without coarseness, richness and diversity of hue without gaudiness, and perfect cleanliness. The greatest credit is due to the grower for the grand results he has attained with these flowers, and also with *Streptocarpus*, a few of which, from Veitch's seeds, also found a place in the package.

BICKLEY AND BROMLEY GARDENERS' ASSOCIATION.—At a meeting of this Association recently, Mr. Rogers read a paper on "The Cultivation of Seakale." His method of procedure with this vegetable was to break off the thongs when lifting the plants in the autumn, and to lay them in soil till they begin to make fresh growth. He planted them out in April or the beginning of May, and in the autumn following they were fit for forcing. The crowns were then lifted, placed in 12-inch pots, over which others were inverted, and placed in a Mushroom house or other convenient place.

HORTICULTURAL CLUB.—The usual monthly dinner and conversazione took place on Tuesday evening, when there was a large attendance of members and friends. Sir Jno. T. D. Llewelyn, Bart., M.P., occupied the chair, and there were present among others Rev. W. Wilks, Messrs. Philip Crowley, H. J. Veitch, W. Whiteley, Peter Kay, Jas. Walker, George Monro, J. Assbee, George Banyard, Harry Turner, W. Poupart, and the Secretary. The discussion was opened by Mr. Peter Kay, whose paper will be found on page 411. The subject was the "Commercial Aspect of Grape Growing," which, as was expected, Mr. Kay dealt with in a masterly manner. An interesting discussion followed, and a cordial vote of thanks was accorded by acclamation to the essayist.

ROYAL APPOINTMENT.—Mr T. Jannoch, Dersingham, Norfolk, Lily of the Valley grower to H.R.H. the Prince of Wales, has been appointed (by Special Warrant) florist to H.R.H. the Princess of Wales.

PRIMULA ROSEA GRANDIFLORA.—Under this name Messrs. J. Cocker & Sons, Aberdeen, send us flowers of a hardy Primula. It is decidedly superior to the type, both in respect of size and richness of colouration. It should attain, as it becomes known, a very wide popularity.

BARNESLEY PAXTON GARDENERS' MUTUAL IMPROVEMENT SOCIETY.—The members of this Society, in order to show their respect and appreciation of the valuable services rendered as a lecturer on horticultural matters at their meetings by Mr. Thos. Garnett, St. John's Gardens, Wakefield, have unanimously elected this well-known gardener an honorary member of the Society.

ROYAL HORTICULTURAL SOCIETY OF ABERDEEN.—The acting Directors of this Society met at the office of the Secretary (Mr. A. M. Byres, C.A.) on Monday evening, 27th ult., Mr. James Murray, Glenburnie Park, presiding. The meeting had under consideration the arrangements for the annual show, which is this year to be held in the grounds of Gordon's College. Committees were appointed to take charge of the various sections, judges nominated, and various other matters discussed.

APRIL WEATHER AT HODSOCK PRIORY, NOTTS.—Mean temperature, 48.4°. Maximum in screen, 67.8° on the 25th; minimum, 28.0° on the 2nd; on the grass, 17.2° on the 2nd. Number of frosts in the shade, three; on the grass, twenty. Sunshine 134 hours, or 32 per cent. of possible. Rainfall 0.94 inch. Rain fell on fourteen days. Another warm and dry month; vegetation forward.—J. MALLENDER.

APRIL WEATHER AT DRIFFIELD.—Mean temperature at 9 A.M. (corrected), 49.97°; wet bulb, 45.55°. Mean maximum, 55.36°; mean minimum, 37.69°. Highest, 65.4° on the 8th; lowest, 30° on the 3rd. Mean of maxima and minima, 46.52°. Mean radiation temperature on the grass, 32.05°; lowest, 25° on the 3rd and 24th. Rainfall, 1.10 inch. Number of rainy days, fifteen. Greatest amount on one day, 0.21 inch on the 10th.—W. E. LOVEL, *Observer, York Road, Driffeld*.

WEATHER IN SOUTH WALES.—The following is a summary of the weather here for the past month. Number of days on which rain fell, fifteen; total depth, 0.96; maximum, 0.21 on the 10th. Number of hours sunshine, 141½; sunless days, three. The wind was in the W. and N.W. on fifteen days, and in the S. and S.W. on eleven days. There have been strong drying winds for the last week of the month, and rain is wanted very bad.—W. MABBOTT, *Gwerllwyn House, Dowlais*.

SUSSEX WEATHER.—The total rainfall at Abbots Leigh, Haywards Heath, for April was 0.60 inch, being 1.15 inch below the average. The heaviest fall was 0.15 inch on the 4th. Rain fell on eleven days. Total for the four months, 4.02 inches, which is 2.93 inches less than that of last year, and 4.39 inches below the average. The maximum temperature was 68° on the 26th; the minimum 31° on the 22nd and 24th. Mean maximum, 58.11°; mean minimum, 39.09°. Mean temperature, 48.60°, which is 1.32° above the average. Rain is very much wanted. Fruit trees about three weeks in advance of last year, and are very promising. May came in cold.—R. I.

WAKEFIELD PAXTON SOCIETY.—At a recent meeting of this Society Mr. W. Tunnicliffe presided, and Mr. H. S. Goodyear was Vice-Chairman. There was a good muster of the members. The lecturer was the Rev. J. C. C. Kemm, of Normanton, who discoursed for about an hour on "British Columbia." Five years' clerical work in a very large district of this important dependency enabled the reverend gentleman to give his audience much interesting information in regard to the physical character of the country and its magnificent scenery. Its mineral resources in the way of coal and gold were boundless, and in regard to the latter deposits he compared them very favourably with those of South Africa. The lecturer showed how marked were the results which followed the enterprise of the Canadian Pacific Railway Company in opening out the country; new towns were springing up, and population increasing at a rapid rate, followed by a great expansion of trade in mineral products, timber, and cattle. A capital series of slides lent increased interest to the lecture, illustrating the grandeur of the mountain and river scenery on the one hand, and the economical possibilities of the lower lands for agricultural and horticultural purposes on the other hand. There was some little discussion, after which a hearty vote of thanks was accorded to the lecturer.

— *CHOYSIA TERNATA*, growing on a south wall at Maiden Erleigh, is a very attractive plant. It has been found in great request in a cut state for domestic use, and sells well. The perfume emitted by the flowers is mild and sweet, but when the foliage is pressed or crushed then the scent is very strong.

— *IBERIS GARREXIANA SUPERBA*.—This is the name of a very fine perennial Candytuft, blooming in large clumps, and most profusely in the gardens at Maiden Erleigh, Reading. The flowers are large, almost as fine as those of *gibraltarica*, but of the purest white, rather stronger in growth than is *corifolia*, and is altogether a more effective border plant. The variety does not seem to be widely grown. It is entitled to take high rank amongst hardy border flowers for blooming in the spring.

— *EUCALYPTUS GLOBULUS* FLOWERING.—In reply to "W. L., Perth" (page 348), I may say that I saw in a villa garden at Ventnor, Isle of Wight, in or about the year 1891, a young specimen about 30 feet high, with several fruits on it. They were something similar in appearance to young green Figs, about an inch long; but I cannot state whether it matured any seed. That and most of the others in the neighbourhood, many of them 60 feet and upwards in height, were either killed outright, or very much injured during the following winter.—REUBEN SCOTT.

— THE NATIONAL AMATEUR GARDENERS' ASSOCIATION.—The sixty-fourth monthly meeting was held at the Memorial Hall on Tuesday, 5th May, when Mr. Crane read a paper on "Hints on Exhibiting." The Association made a further extension by admitting into affiliation the Sea Point Horticultural Society of Cape Town. This is the first connection of the Association with South Africa. Thirteen new members were elected, making a total of eighty-one since January. Further additions were made to the library. The exhibition contained many specimens of high culture, and was very good, although the recent hot weather had kept away many exhibits of Auriculas. The first outing of the season was announced to be to the beautiful gardens of A. H. Smee, Esq., The Grange, Wallington, on Saturday, 30th May. During the evening Mr. T. W. Sanders, the President, informed the meeting that arrangements had now been made for the issue of a record of the proceedings of the Association, which will contain reports of the meetings and exhibitions of the Association, its branches, and affiliated Societies.

— DESTRUCTION OF THE EARLY POTATO CROP IN IRELAND.—During Wednesday and Thursday we had showers of hail here, and towards evening on Thursday the wind backed from W.N. to N., and lowering of the temperature supervened at sundown. The thermometer dropped to 30° Fahr. during the night, and a hot sun in the morning gave the *coup de grâce* to the very promising early Potato crop, and everything else in the farm and garden of a soft or tender description. Pears, Plums, Apricots, Nectarines, Cherries, and Figs in my garden are beyond danger, and have the fruit set, but several late varieties of Apples are now in full bloom, notably Ribston Pippins, and Winter Greening. These will probably be seriously injured. Never in my experience has there been such a mass of bloom on the first mentioned fruit trees, especially Pears. Victoria and Early Prolific Plums maintain their reputation, and almost all varieties of Apples look well. We have had no frost here since December, Dahlias, Asters, Marigolds, Zinnias, and all half-hardy things were well over the ground in the open garden and without protection.—W. J. MURPHY, Clonmel.

— LIFTING OR REPLANTING LARGE TREES.—The "Boston Flower Market" states that owing to the filling in of portions of Boston Common by using the material from a subway the surface has been raised to 4 feet or more above its former level in some places. To save the beautiful shade trees that had been sunk several feet below their natural level has been the work that has engaged Superintendent Doogue's attention for some time. The size of the tree played little part in the proceeding. A circular trench was first dug about the tree at a sufficient distance from the trunk that the roots suffered little disturbance, and it was sunk to a level considerably below the larger roots. When the ball of earth around the tree was thoroughly frozen it was lifted in much the same way as is employed in the raising of a building. When raised to the proper level the space beneath the ball was filled with earth, carefully trampled down, the trench filled, and the work thus completed. Thirty-one of the largest trees raised vary in weight from 8 to 46 tons. The proportions of the largest trees raised are as follows:—Diameter 2½ feet, circumference 7½ feet, height 80 feet, and spread 60 feet; diameter of ball 15 feet, depth 5 feet, and weight 46 tons.

— WE are informed that the annual Chrysanthemum show will be held in Coventry on November 4th and 5th.

— SPRAYING FRUIT TREES AND BEES.—It has been often argued that when orchards are sprayed with arsenical poisons while the trees are in blossom a great many bees are killed. The bees are not only useful as honey gatherers, but they are very helpful in fertilising the flowers. Some experiments made last year at the Ohio Station show conclusively that bees may be killed in large numbers by spraying while the flowers are open, and since this practice is never necessary at that time for the destruction of injurious insects it should be avoided. The trees should be sprayed just before flowering and as soon as the blossoms have fallen, but never while they are in bloom.—("Garden and Forest.")

— THE SNEEZEWORT YARROW.—This is a very pretty flower, the foliage of which dried and powdered is said to excite sneezing, and to be used by the Highlanders for snuff. As far as we can perceive, however, it has no irritating power save such as would arise from applying any fine powder to the nostrils. This plant is easily known, because its flowers, which grow in a cluster, and each of which is nearly as large as a Daisy, have a white disc as well as white rays; and there is scarcely another wild flower in which this is the case, the disc of white-rayed flowers being usually yellow. This Sneezewort is rather local, and in North Wales, where it is abundant, its leaves are commonly made into a tea for the cure of headache. Sheep and cows seem very fond of it. Achilles is said to have discovered the virtues of these herbs, and hence the name of the genus; but however we may disbelieve this tradition, there is evidence that they were very early used as remedies.—("Rural World.")

— *KÆMPFERIA ROTUNDA*.—Although a very old and well-known plant, this is usually grown for its foliage, but its exceedingly beautiful flowers are really its greatest charm. The flowers are borne in spring or summer before the leaves, which should be allowed to die down late in the autumn, and the plants may be kept in a dry state until January or February, when they should be placed in moss in flat pans with the roots but slightly covered. Or they may be planted and grown from year to year in an ordinary light compost and allowed to rest in winter. When brought into a brisk heat the leaves and flowers soon begin to grow. The flowers, not unlike Meadow Saffrons in form and colour, are almost sessile, and produced directly from the root in great profusion. They are sweetly fragrant and of a bright rosy red colour, or sometimes paler, each one lasting only a day, but succeeded by new ones for a long period. *Kæmpferias*, says a writer in an American contemporary, look best in masses when a number of flowers show at the same time. The leaves when fully developed are about 2 feet long, erect, broadly lanceolate, and narrowed to a broad petiole at the base. The colour is a dull olive green, with one or two brownish longitudinal bands, so that the plant is quite effective even when out of flower.

— TREES IN TOWNS.—It is only quite recently that we in London have awakened to the beauty of trees in towns, for in the streets built a quarter of a century ago the long, dreary lines of stucco are unbroken by any leaf or shrub. But nowadays, when new houses are put up, the architect does his best to preserve whatever trees there are, and in those of our thoroughfares which are sufficiently broad young saplings have been planted, which greatly improve the look of the streets. Paris has always been famous for its boulevards, but the trees are dying in some mysterious fashion. The leaves never come out till the end of April, and if the summer is at all warm, fall off about the middle of July, in spite of the efforts which have been made to purify the air. A well-known botanist was lately appointed to examine into this matter, and after a lengthy study of the question he has reported that the cause of the great mortality among the trees is the excessive hardness of the soil, which prevents any air getting to the roots, with the result that a certain fungus attacks them and causes them to decay rapidly. And by the system of drainage in vogue the plants are deprived of water as well as of air, and therefore the Viennese plan is recommended, which consists in substituting drainpipes of wood for those of earthenware which are commonly used. In Vienna the trees are said to flourish with this system of drainage, and it is proposed that wooden pipes should be used in Paris. The subject is of interest to us in England, and especially in London, for, judging by some of the trees now struggling into leaf in our streets, the evils of too dry and matted a soil are being felt with us. The trees are such an ornament to London that it is to be hoped that those who have them in charge will study and profit by the report of the Parisian botanist.



DENDROBIUM PALLENS.

AT one of the early meetings of the Royal Horticultural Society this year there was exhibited by Mr. W. H. White, Orchid grower to Sir Trevor Lawrence, Burford Lodge, Dorking, a specimen of this chastely beautiful *Dendrobium*. It is said to be a cross between *D. Findlayanum* and *D. Ainsworthi*. The sweetly fragrant flowers produced as depicted in the woodcut (fig. 69) are of good size, the sepals and petals being white tipped with bright rosy pink. The lip also is white, with the same shade at the tip as in the other organs, while the throat is pale lemon yellow. The Orchid Committee adjudged an award of merit.

NOTES ON CATTLEYAS.

THE importance of this splendid genus is too well known and appreciated for any dilatation on its merits to be necessary, and a few lines on the details of culture to be observed at this season will probably be more acceptable to those interested. Perhaps at no other season are *Cattleyas* more likely to be overwatered than now, when drying winds and bright sun render so much damping of the stages necessary. Of course it is quite possible to do this without wetting the surface even of the compost, and experienced cultivators need not to be told the advantages accruing from this careful treatment. But this class of cultivators is not likely to overwater their plants at any season, and to the inexperienced these lines therefore will most appeal. One of the most frequent causes of non-success in any branch of Orchid growing is hurry, a dash with the syringe, making the atmosphere feel moist, and a seemingly expeditious way of getting out of the difficulty.

This may do no harm one day, in fact an occasional syringing is beneficial to most Orchids; but if persisted in it will be, and has been, the ruin of many fine collections. The young tender roots are in many instances running on or near the surface of the compost, and this being kept constantly moist by the syringing is the worst possible medium for them. Down among the drainage, on the other hand, roots are older and more plentiful, and therefore require more moisture; but there the whole is as dry as dust, the appearance of the surface deceiving the operator when watering at the root. Needless to say that this state of things cannot long go on without serious injury, and the advisability of more care in damping is at once seen. A worse stage is reached in due time; the under roots, owing to the continued drought, losing the power, as it were, of absorbing the moisture when it is evident by the state of the plant that something is amiss, and more water is given. These soon decay, and thus the plants are killed by watering when in reality they have not had enough.

Then if the atmosphere is kept too dry, and unfortunately this is frequently the case, the plants dry at the root very rapidly, so much so, in fact, that water has to be applied daily, or even twice daily, to keep them moist. The compost in this case soon becomes a wet, close mass, the roots perishing one by one until hardly a sound one is left, and with the natural result. Endeavour then at this season to maintain plenty of atmospheric moisture without sousing the plants and sprinkling the compost. Then it is easily seen whether the roots need water or not, and a little care and observation only are necessary. As the young growth in many cases is well on the move, a rise in the night temperature should now be permitted, never allowing the house to drop below 58° if it can be avoided, and, if practicable, leaving on a little air at night. By day the house may run up to 75° or 80° when the sun is bright, always provided that plenty of air is allowed and that the rise from the night temperature has been gradual.

Many plants have recently been potted, and these are now placed together as much as possible, a little more shade being allowed them than those well established in their pots. For the latter shade as little as possible, but keep in mind the young growing shoots, for although they are in many cases under the protecting shade of the foliage, this must not be relied on, and many losses occur through inattention to this. It is not too late to repot any that require it, and in looking the plants over for this operation remember that a year has to elapse before potting time again comes round, and any the compost of which seems in a doubtful condition may perhaps be in a very bad state ere then. Keep in mind, on the other hand, that repotting, however carefully done, is harmful to a certain extent, and do not disturb any that do not require it. If water enters the compost freely when poured upon it, and leaves it with a rush through the drainage hole beneath, there is no need

to repot if the plants are not root-bound and require a larger one; but if the drainage is slow, and the compost appears close and heavy on the surface, the sooner the roots are out of it the better.

I have so often described the modes of potting and basketing these Orchids in the Journal that to go into the matter again seems hardly necessary. Suffice it to say then that nothing of a sour or heavy nature must be left in the pots, and all decayed portions of root should be cut away. Use pots rather wide than deep, especially for the strong-growing members of the genus, and the compost in a rough open condition. The water supply must be curtailed a little afterwards and until the roots are moving freely, when more will be necessary. Among those now in flower perhaps the most important are *C. Lawrenceana* and *C. Mendelli*, both belonging to the labiata section. The former is a highly coloured and charming species, requiring plenty of heat to bring it to perfection, the latter doing well in the ordinary *Cattleya* house temperature.

C. Skinneri is another useful and interesting species now in blossom, bearing many-flowered racemes varying considerably both in size and tints of colouring. *C. intermedia*, *C. citrina*, and *C. amethystoglossa* are all in full beauty, and the swelling sheaths on the earlier plants of *C. Mossiæ* give promise of a rich and varied display in the near future.—H. R. R.

GARDEN PESTS AND ANTIDOTES.

(Continued from page 394.)

IN taking cognisance of the insecticides in use the oldest is tobacco, which, in the form of smoke, liquid, and powder (snuff) dates from the last century. Tobacco, or its principle nicotine, is a poisonous substance, with a disagreeable or repellant odour to certain insects, thus acting as a preventive and remedial agent. Its smoke is fatal to aphides and thrips, two of the most destructive pests of crops, but tobacco smoke has little effect on the scale and red spider. The oil, however, or nicotine, makes an end, when vaporised, of mealy bug, and greatly reduces the arachnoid in number. Both the smoke and vaporised fumes render the structure and the plants on which they are used repugnant to insects for some time, consequently fumigation by either method acts as a preventive of attack for some time afterwards, and it is a notable fact that where periodical fumigation or vaporisation is had recourse to at sufficiently frequent intervals there are no insects of the aphid or thrip order. In powder form the odour is more subdued, yet the plants are made distasteful to such insects for a greater or lesser time, according as it remains on the plant.

When in decoction, whether of the tobacco itself or of the expressed juice in manufacturing smoking tobacco, both aphides and thrips readily succumb, provided they are moistened by it, which is not always the case, as aphides have smooth bodies and watery substances do not adhere to them, hence decoction of tobacco is not as powerful as tobacco juice, which contains some oil and clings to the bodies of the insects to a greater extent. But even oils do not hold so well to smooth surfaces as saponified substances, hence we have nicotine soap, so as to cause the insecticide to have a better grip on the insect's body, and thus secure the advantages of both the tobacco and of the soap as a destroyer of insects, and preventive of their recurrence.

Soaps of the potash and soda class come next in antiquity as insecticides, but their manufacture and use on a large scale dates only from about the year 1823, when Chevreul published his famous researches on the animal fats. Soaps are metallic salts of the higher fatty acids, and the process by which these salts are produced from the natural fats is called saponification. In ordinary language the name is limited to the sodium and potassium salts of these acids, hard soap being a soda and softsoap a potash soap. Soapsuds have long been used as an insecticide, but are now almost wholly neglected, though still of essential service when used in proper manner and form. Softsoap in various ways is one of the chief insecticides, and in some cases fungicides, used in gardens. When not containing the higher fatty acids in the free state softsoap is one of the safest substances to use, as it can do no harm to the foliage or growth unless used in excessive amounts, or to the roots of plants; but some benefit on account of the reduction of the organic matter and the presence of the potash. Gishurst compound comes under this category, being the natural fats—palmitine, stearine, and oleine—saponified.

In successional order come the wood oils, such as Fir-tree, a combination of hydro-carbon oils made soluble in water, containing small portions of paraffin and petroleum in Fir-tree oil insecticide, with larger portions of oils from the various species of Pine trees, treated in such manner that they become perishable in the soil, so as not to destroy the roots of plants, which often prove the case

when wood and mineral oils, such as petroleum, is used alone or simply mixed with water. All the Fir or Pine-tree oils are effective against insects, and it must be said injurious to vegetation unless made perfectly soluble in water, so that when applied to plants the stomata are not interfered with, the cuticle injured, or the roots impaired by the substance decomposing or perishing in the soil.

Petroleum oil was first used in the United States, and in various forms has gained considerable repute as an insecticide.

Mr. A. Shearer, who found petroleum easily made soluble by adding it to a boiling solution of softsoap, the latter being used in the proportion of 1 lb. of softsoap to eight parts (pounds) of water, the petroleum amalgamating with this solution in any proportion, and becoming perfectly soluble. Now soluble paraffin, or petroleum oil, is a merchantable article, and has special value both as a fungicide and insecticide. It also has a preventive and repellant effect on insects.



FIG. 69.—DENDROBIUM PALLENS.

In the pure state it has a more or less injurious effect on vegetable life, a one part in seventy parts water being fatal to many fungoid pests, and the faintest sprinkling on Turnips and Onions renders those crops safe from the attacks of "flies" while the smell lasts. But in such a state the petroleum proves in the long run injurious, because the oil does not perish or decompose in the soil, but remains in its natural state, to the detriment of vegetable life. To avoid injury to plants and roots petroleum was treated with soap, a partial saponification being effected through the amalgamation, or so called emulsion. This was much simplified by the late

The extract from quassia chips has been in use for some considerable time. To green and black fly it acts as poison, also to thrips and caterpillars (in some cases), and has no injurious effect on vegetation, being a purely vegetable extract acting as a narcotic. The intense bitterness of the extract is much disliked by insects, consequently it not only acts as a remedy, but more or less repellantly of insect attacks.

Of other simple substances mention may be made of lemon oil, which is got from the fresh rind of the Lemon, either by pressure or by distillation with water. It has a special affinity for hydro-

chloric acid, but dissolves sparingly in water. The smell is lemon-like and it is pungent to the taste. When saponified, or made soluble, it dissolves readily in water and speedily makes an end of infesting insects on plants to which it is applied, being thoroughly effective and not dangerous when used with proper care.

The use of acids is of recent date, and unless saponified they are not safe to use on vegetation, hence they usually take the form of soaps, such as carbolic soap, which contains about 10 per cent. pure carbolic acid.

Hellebore powder, the well-known remedy for Gooseberry caterpillar, is a vegetable poison, but its poisonous properties soon pass off, so that there is less danger of misadventure from its use than perhaps any other poisonous substance.

Sulphur is the oldest fungicide and was first used as such in England, where also it had previously attained some repute as an insecticide, especially its fumes, against arachnoides—the red spider and similar pests.

Lastly, Paris green obtained celebrity in North America as a destroyer of caterpillars, it being a virulent poison, and as such requiring to be used with care and judgment.

All the foregoing substances separately are insecticides of the first order and are well known to gardeners. Besides those there are many proprietary preparations or general insecticides which are as safe to use as they are effective in clearing the plants of pests. There is no need to allude to them by name, as they are kept well in front of cultivators by advertisements in the gardening periodicals, and anyone having plants infested with insects cannot do better than order that suitable for his or her purpose and apply it according to the instructions.

As a general wash for fruit trees or bushes immediately after the fruit is set few are better than the following:—Softsoap, 7 lbs., about 1½ oz. per gallon of water; petroleum, 1½ quart., about ½ gill (⅛ pint) to 4 gallons of water; Paris green, ¾ dr. to 1 gallon water or 5 ozs. 100 gallons.

The softsoap should be dissolved by boiling in 56 lbs. of water, and while boiling hot have the petroleum added and stirred in to insure thorough amalgamation, then add the remainder of the water and finally the Paris green, this being in paste form and mixed with sufficient water to form a thin mixture before adding to that of the soluble petroleum, stirring well and keeping agitated whilst being applied. This is accomplished by means of some approved spraying apparatus, such as the Knapsack pump Eclair, advertised in the *Journal of Horticulture*, coating every part of the tree or bush with the finest possible film of the mixture. The effect of the mixture will be to annihilate all sucking and biting insects, the soluble petroleum destroying aphides, chermes, red spider, scale, thrips, and woolly aphis, while the Paris green poisons beetles, caterpillars, weevils, and other biting insects.

In the case of bush fruits, such as Currants, Gooseberries, and Raspberries, it may be advisable to use freshly ground hellebore powder instead of Paris green, but pounds instead of ounces, which is efficacious against the Gooseberry caterpillar and the beetles feeding on the foliage of Raspberries. Where there are no biting creatures, an extreme rarity in gardens and fruit plantations, the poisons may be omitted, and the soluble petroleum may be administered by means of a fine rose syringe or garden engine, but it is more economical to use a spraying apparatus, and so directing the spray as to reach the insects on the under side of the leaves, for the efficacy of any admixture depends largely on the mode of administration, it being imperative that the soluble petroleum be brought into contact with the bodies of the parasites. Soluble petroleum acts well against the surface mildews, but it is essential in every case to repeat the applications as necessary, so as not only clear the trees of the pests in the first instance, but to keep them so, being guided by circumstances as to frequency of use and material to apply.

Another easily prepared insecticide is as follows:—Softsoap 7 lbs., or carbolic soap, 7 lbs.; quassia chips 8 lbs., or quassia extract 1½ gallon, and water 100 gallons.

Place the quassia chips in a copper with about 6 gallons of cold water, and leave overnight. In the morning heat and boil for about a quarter of an hour, then add the softsoap or carbolic soap, and when thoroughly dissolved strain and add the remainder of the water. This solution acts well against aphis and all sucking insects, but for caterpillars and all biting insects it is necessary to add Paris green paste, 5 ozs. to the whole mixture. In the case of quassia extract the soap is simply dissolved in hot water, then the remainder of the water being added, place in the quassia extract and stir well.

For red spider, mites, and mildew:—Softsoap 7 lbs., caustic soda 1 lb., flowers of sulphur 1½ lb., and water 100 gallons.

Dissolve the caustic soda in 1 gallon of water, and boil with the sulphur until dissolved, or for about fifteen minutes, keeping stirred all the time, when it will be a dark liquid or sulphide of soda. Dissolve the softsoap by boiling in 15 gallons of water, then mix

this and the sulphide well together, boiling gently for half an hour. Add the remainder of the water or dilute to 100 gallons, when the wash is ready for use. It is advisable to apply the liquid at a temperature of 90° to 100°, and in the form of a spray. The solution will not injure the foliage or young fruit unless very tender, and that must be guarded against by trial on a small portion before using on a large scale. This applies to all insecticides and fungicides, the foliage varying considerably in liability to injury or otherwise according to season and circumstances.—G. ABBEY.

NARCISSI AND THEIR ARTISTIC USE.*

WHILE fair in form as any Orchid or Lily of the tropics, the Narcissus is as much at home in our climate as the Kingcups in the marsh and the Primroses in the wood. And when the wild Narcissus comes with these in the woods and orchards of Northern France and Southern England it has also for companions the Violet and the Cowslip, hardiest children of the north, blooming in and near the still leafless woods.

This clear fact should lead us to see that it is not only a garden flower we have here, but one which may give glorious beauty to our woods and fields and meadows, as well as to the pleasure ground. Nothing can be more beautiful than Mr. Walker's way of growing Narcissi for market, or such handsome borders of them as Mr. Burbidge grows, and they are beautiful in all ways, but in many cases it may not be well to have many of them in the flower garden, which we want to be full of summer and autumn flowers; and therefore we have to think of other ways of arranging them.

In our country in several places there is plenty of room to grow them in other ways than in the garden proper, and this not merely in country seats, but in farms and orchards and cool meadows. To chance growth in such places we owe it already that many Narcissi or Daffodils which were lost to gardens in the period when hardy plants were wholly set aside for bedding plants have been preserved to us, at first, probably, in many cases thrown out with the garden refuse. In many places in Ireland and the West of England Narcissi lost to the gardens have been found in old orchards and like places. If we plant groups of those kinds we have to spare in the grass, and any wave of fashion should, unhappily, affect the Narcissi in the garden, our descendants may find them faithful as native flowers in the grass long after the Barrs, and Burbidges, and Hartlands, and others, who have done so much for the flower in our own day, have left their Narcissus grounds for, let us hope, the Elysian fields.

There is scarcely a garden in the kingdom that is not disfigured by vain attempts to grow trees, shrubs and flowers that are not really hardy, and it would often be much wiser to devote attention to things that are absolutely hardy in our country, like most Narcissi to which the hardest winters make no difference, and, besides, we know from their distribution in Nature how fearless they are in this respect. Three months after our native kind has flowered in the Weald of Sussex, and in woods or the orchards of Normandy, many of its allies are beneath the snow in the mountain valleys of Europe, waiting till the summer sun melts the deep snow.

On a high plateau in Auvergne we saw many acres in full bloom on July 16th, 1894, and these high plateaux are much colder than our own country generally. Soils that are cool and stiff and not favourable to a great variety of plants suit Narcissi perfectly. On the cool mountain marshes and pastures, where the snow lies deep, the plant has abundance of moisture—one reason why it succeeds better in our cool soils. In any case it does so, and it is mostly on dry light soils that Narcissi fail to succeed. Light, sandy, or chalky soils in the south of England are, we should say, useless, and Narcissus culture on a large scale should not be attempted on such soils. We must not court failure, and however freely in some soils Narcissi grow in turf, there is no law clearer than that all plants will not grow in any one soil, and it is a mercy, too, for if all soils were alike, we should find gardens far more monotonous than they are now.

Gardening is an art dealing with living things, and we cannot place these with as little thought as those who arrange shells, or coins, or plates. At the same time we may be mistaken as to failures which now and then arise from other causes than the soil. I planted years ago some Bayonne Daffodils on the northern slope of a cool field, and thought the plants had perished, as so little of them was seen after the first year. Despairing of the slope it was planted with Alder, a tree that grows in any soil or water. Years afterwards, walking one day through the Alder, we found the Bayonne Daffodil in perfect bloom. The roots had doubtless been weak and taken time to recover.

If the soil be right, all that need be done in planting is to make two cuts with the spade, raising the sod, putting a few bulbs beneath it, again turning the sod down, firmly tramping it down, leaving them to take their own way ever afterwards. It will often be well to turn up all the sods at first so as to see the outline of the groups.

Eight years ago I planted many thousands of Narcissi in the grass, never doubting that I should succeed with them, but not expecting I should succeed nearly so well. They have thriven admirably, bloomed well and regularly; the flowers are large and handsome, and in most cases have not diminished in size. In open, rich, heavy bottoms, along hedgerows, in quite open loamy fields, in every position they have been

* Paper read by Mr. WM. ROBINSON before the Daffodil Conference at Regent's Park.

tried. They are delightful seen near at hand, and also effective in the picture.

The leaves ripen, disappear before mowing time, and do not in any way interfere with the farming. The harrowing and rolling of the fields in the spring hurt the leaves a little, but the plants are free from this near wood walks, by grass walks, and open copses and lawns which abound in so many English country places. The great group of forms of our large native Daffodils gave good results; they thrive better and the flowers are handsomer than those of the wild plant. The little Tenby Daffodil is very sturdy, pretty, and never fails. A delightful feature of Narcissus meadow gardening is the way great groups follow each other in the fields. When the Star Narcissi begin to fade a little in their beauty, the Poet's follow.

As to the kinds we may naturalise with advantage, they are almost without limit, but generally it is better to take the great groups of the Star Narcissi, the Poet's and the wild Daffodil, of which there are so many handsome varieties. We can be sure that these are hardy in our soils; and, moreover, as we have to do this kind of work in a bold and rather unsparing way, we must deal with kinds that are easiest to purchase. There is hardly any limit except the one of rarity, and we must for the most part put our rare kinds in good garden ground till they increase, though we have to count with the fact that in some cases Narcissi that will not thrive in the garden will do so in the grass of a meadow or orchard.

The fine distant effect of Narcissi in groups in the grass should not be forgotten. It is distinct from their effect in gardens, and it is most charming to see them reflect, as it were, the glory of the spring sun. It is not only their effect near at hand that charms us, but as we walk about we may see them in the distance in varying lights, sometimes through and beyond the leafless woods or copses. There is nothing we have to fear in this charming work save the common sin—overdoing.

To scatter Narcissi equally over the grass everywhere is to destroy all chance of repose, of relief, and of seeing them in the charming ways in which they often arrange themselves. It is almost as easy to plant in pretty ways as in ugly ways if we take the trouble to think of it. There are hints to be gathered in the way wild plants arrange themselves, and even in the sky. Often a small cloud passing in the sky will give a very good form for a group, and be instructive even in being closer and more solid towards its centre, as groups of Narcissi in the grass should often be. The regular garden way of setting things out is very necessary in the garden, but it will not do at all if we are to get the pictures we can get from Narcissi in the turf.

Whatever we do, it is always necessary to keep an open turf here and there among the groups, and in dealing with a wide lawn or a meadow we should leave a large breadth quite free of flowers. Bearing all these things in mind, it may be said with confidence that no one who has not seen it well grown and happily placed in the wild garden knows what the Narcissus may do for our lawns and home landscapes.

SALVIA PATENS.

BOTH as a pot plant and as a border flower this well-known *Salvia* unquestionably possesses high merit. Many years ago it was more commonly met with than at the present day, yet in beauty it is not superseded by any other species of the same genus, or surpassed in colour by any flower that is grown in hothouse or garden.

As a conservatory plant it is deserving of more general attention than it receives, as contributing a colour that is not common to indoor plants, and which is fine by contrast with other flowers of the same period, and, more than this, one that is certain to be admired for its intrinsic richness and undoubted beauty.

The plant is of the easiest possible culture. It may be had in bloom over a long period of the year, and may be grown and flowered small in a 48-sized pot, or be increased to the size of a large bush carrying twenty or more spikes of bloom. It is thus adaptable to small or large houses, and to various purposes of decoration. It is a plant which, with gentle forcing, will fill an important place after the *Cinerarias* are over, and provide the colour which those plants have, in a measure, been wont to give, and which is too often absent in *Pelargonium*, *Calceolaria*, and *Azalea* time. For associating with those plants in June the *Salvia patens* is extremely well adapted, and cannot be too strongly recommended.

For this purpose stools, established in pots, have only to be introduced into gentle heat in February, and placed in a light position, and by shifting-on they can be grown to any size required. If small blooming plants are preferred the young shoots can be rooted in a brisk heat, when, by liberal culture and without any pinching or stopping, they will be in bloom in two or three months from the time of inserting the cuttings. Rich soil with an abundance of water are the main points leading to success. It should be stated that on breaking into growth the old plants should be carefully shaken out of the pots and repotted in fresh soil. When full of roots and in active growth they will require as much support as the *Chrysanthemum*. If this is denied them they will not only cease blooming, but will become infested by the red spider. As summer and autumn-blooming garden plants, rows, clumps, or individual plants in the mixed borders are very effective.

If required in a dwarf state the plants can be pegged down, but they are not suitable for filling-in a panel—not only because the growth is not close, but because during very hot weather, when other plants are in beauty, these are apt to drop their flowers, and would spoil the aggregate effect. It is for the conservatory, for lines in shrubberies, or

clumps in mixed borders, that these plants are mainly suitable, and for such purposes they should be universally cultivated.

Their rich spikes are always in request as cut blooms, and they last a considerable time—in fact quite long enough—in water. For this purpose alone this beautiful blue *Salvia* should be provided. A stock is easy to be had, for cuttings root quite freely at this season, and it is also easily raised from seeds. It is not a free-seeding plant, and not many can be expected from a small packet. What there are, however, are fairly certain in germination if afforded a genial heat and a sufficiency of moisture. Plants from seeds flower the same season.

Its tuberous roots will, in dry soil, and if covered with ashes, survive the winter in the open ground; but it is altogether preferable to take them up and store in pots or boxes quite free from frost. The soil should never become dust-dry, or the roots will shrivel at the neck and the eyes will refuse to start in the spring. This good old plant is commended to gardeners generally, and to admirers of blue flowers particularly, as worthy of extended cultivation.—A GARDENER.

GARDENS ABOUT LONDON.

SPRING GROVE HOUSE.

TRAVELLERS on the main road from London to Hounslow cannot but have noticed the handsome mansion standing on the side of the rising ground to the right, immediately after passing Isleworth Station on the South-Western Railway, and doubtless many will have been so much impressed as to take the earliest opportunity of asking to whom it belongs. They will not have had far to seek, as everyone in the district knows it as the home of Andrew Pears, Esq., than which no name is more familiar. Not that the estate is confined to the right-hand side of the road, as on the left is a space of some 14 acres, comprising paddocks and kitchen gardens. Though the present house is of recent erection, the estate dates back to a remote period, as is evidenced by the magnificent Cedar of Lebanon, which rises in stately grandeur on the left of the lawn. With the history of the place, however, it is not proposed to deal here, interesting though it is; but to say a few words about it from a gardening point of view.

Like many estates throughout the country Spring Grove House is enclosed by a ring fence, inside of which runs a belt of trees, and a broad border for the culture of hardy plants. The trees are not yet large, and as a consequence the lawns and mansion are open to the gaze of passers-by, but later, when they have become established and filled out, privacy will be insured. It was noticed that a few Conifers had been planted, but they have not proved a success, and so none will be utilised in future planting. Several flowering trees and shrubs were in beauty at the time of the visit, and of them all, the common double white Cherry was the most beautiful. The plants in the border have not yet attained to their full dimensions, for the simple reason that many have only been inserted for a comparatively short space of time, but several were already throwing up their flowers, while others again were just peeping through the ground. In the course of a few years this border, which is of varying width, will become one of the most charming features, and will afford flowers literally by the bushel.

Turning from this walk we take another, leading more into the centre and towards the gardens. Under the shade of a fine tree here has been built a small summer-house flanked and faced by a rockery, which is beautiful with many of the more generally known hardy Primulas, with Polyanthes and Primroses in abundance. Guided by the capable and genial gardener, Mr. W. Farr, the terrace, on which is the lawn, is quickly mounted, and looking back across the road and railway a magnificent panorama is opened to the view. Away over trees, meadows and houses, is plainly seen the well-known Star and Garter at Richmond, with the park in close proximity. It is a magnificent sight, such as all lovers of landscape admire and appreciate, but to which no more words must be devoted here, so let us get back at once to the gardens. Delightfully fragrant and beautiful in its simplicity is a broad border in front of the lawn. It is well stocked with Blood Red and Belvoir Castle Wallflowers, double Daisies, Violas in great variety, with Polyanthes, and other suitable plants.

Looking at and walking on the springy turf one would not suppose that it was only three years old; but such is indeed the case, and the condition in which we found it speaks well for the thoroughness of the attention that has been bestowed upon it. A few steps more and we are on what is known as the marble terrace, on which is one long bed occupied by the same plants as those in the border previously mentioned, though some plants of a superb dark Polyanthus are here more particularly noticed, and in which will later be done a little specimen of carpet bedding. The rockeries on and adjacent to this beautiful terrace have been built with care, judgment, and forethought, and even at this early date after their formation, present an appearance of age that is a credit to Messrs. Jas. Veitch & Sons, the constructors. The plants appear to be, by their thriving condition, perfectly at home, while the selection leaves little or nothing to be desired. It is from here that the previously mentioned Cedar is seen to the best possible advantage, as, indeed, are the lawns and borders.

From the marble terrace we step immediately into the conservatory, which is built in entire keeping with the mansion to which it is attached. The style of the structure is elegant, but it is fully lofty for the plants

with which it usually is stocked. The colours of the paints used, the soft glow of the numerous electric lights, the rich green leafage, the brilliantly hued flowers, make at night a veritable fairy scene, such as everyone likes to see. An ornament, which must have a word in passing, is the superb onyx basin in the centre. This is said to be the largest piece of its kind in the country, and the writer can well believe it. In a Palm house adjoining the conservatory may be found many plants in perfect health. There are Palms large and small, Ferns, *Dracenas*, *Marantas*, *Ficus*, in fact all kinds suitable for the temperature, and which owe their popularity to their foliage. From the roof depend baskets of Ferns, with here and there extraordinary looking specimens of fishes, the spoils, it was understood, of some of Mr. Pears' visits abroad. Lending diversity to the plants on the borders were a few lizards, and as they did not look very gentle, inquiry was made as to whether they were alive or dead ere venturing near.

Though the bedding had not commenced at the time of the visit every preparation was being made for the reception of the plants when the weather is safe for the operation to be carried out. The flower garden, enclosed by hedges, is not very large, but should, according to the formation of the beds, be very charming when fully occupied. The thousands of plants necessary for this purpose are to be seen in the houses, in the frames, and in sheltered positions out of doors, and if the present healthy state is maintained they will without doubt do justice to themselves and to their grower. They are sturdy, strong looking plants, such as all good flower gardeners like to see. Close to this garden is the tennis court with a handsome tea pavilion adjoining, and not very far from Mr. Pears' delightful coffee room. Roses, too, in great variety find a congenial home. The plants are breaking strongly, and give promise of producing abundance of flowers at their proper season. It is to be hoped that there will be no late frosts sufficiently severe to even partially destroy the harvest of the queen of flowers. Unfortunately, none can yet feel perfectly safe.

The fruit garden, containing large numbers of bush and pyramid trees, is in splendid condition. So recently as last season all the specimens were lifted, root-pruned, and replanted in thoroughly good compost, and this season the show of blossom has been remarkable. The wood on all of them is stout and strong without being luxuriant and gross, while its cleanliness is testimony to the care that is devoted to them for the prevention of insect and fungoid pests. A system well worthy of emulation is the manner of labelling with large tallies, on which the names are written in white paint, making them perfectly legible at some distance. The Strawberry garden is a model, and the plants are in the best of health. A trial is being made to determine which varieties are best suited to the soil and situation. The several trees on the walls are in quite as good condition as those in the open, and the promise of fruit throughout is excellent. It was noticeable that all the best varieties of the various kinds of fruits were cultivated either in the open or on the walls.

Creditable as is the condition of the outdoor fruit that cultivated under glass is equally so, and proved that here, as elsewhere, there is a master man at the helm. There are Vines carrying ripe Grapes, others with half-swelled berries, with many more only just past the flowering stage. On all alike are sound healthy leaves, and above thoroughly ripened wood. In the earliest houses the bunches are of good size, evenly distributed over the Vines, and the way the berries have finished must be very gratifying to both owner and grower. There are *Hamburgs*, *Muscat of Alexandria*, *Appley Towers*, *Foster's Seedling*, *Lady Downe's*, and others represented. Then there are *Peaches*, *Nectarines*, *Figs*, *Apricots*, *Cherries*, *Plums*, *Apples*, and *Pears*, of which the last six are grown in pots, in considerable numbers and great variety. Those who are interested in fruit culture generally would find a few hours at Spring Grove House, under the guidance of Mr. Farr, thoroughly well spent, as they would assuredly pick up some information that would be of value to them. *Royal Sovereign Strawberries* in pots are a picture, while *Melons*, *Cucumbers*, and *Tomatoes* in the various houses are living monuments of the grower's skill.

Like the preceding department, that for plant-growing is of some considerable extent, though the equipment is perhaps not quite so good. Notwithstanding this, however, there are thousands of splendidly grown plants to be seen, comprising all those usually seen in such an establishment, with a few others besides. One house is devoted almost exclusively to *Crotons*, the larger plants being in a central bed with the younger stock on the side stages. These are very clean indeed, and the colours are already in many of the specimens very richly developed. Passing along we noticed *Dracenas*, *Palms*, *Ferns*, *Asparagus*, and other foliage plants, with flowering plants in seemingly endless variety, and all in excellent condition. All those that are suitable have to serve their turns in the conservatory or in the mansion, whence they return in a more or less dilapidated condition. It was remarked that *Orchids* were not largely grown, as a matter of fact there was only a small batch in a corner of one of the plant structures. This was at first a matter for surprise, until it was learned that Mr. Pears was not particularly partial to them, and as a consequence they are relegated to a minor position.

In the vegetable gardens the condition of affairs is as satisfactory as in the other departments, but while all seasonable crops are present

in good form it would serve no useful purpose to particularise them here. But before concluding it is necessary to draw attention to the general conditions that prevail as regards cleanliness. In brief, no garden could be more tidy; the lawns are closely mown; the walks are destitute of weeds; the woodwork and the glass of the many houses are clean and fresh; while the plants and trees inside and out are in the best of condition. It was an initial visit to Isleworth, and therefore to Spring Grove House; but the writer was so impressed by the condition of the gardens and charmed by the homely cordiality of Mr. Farr, that he is already hoping for and looking forward to another visit.—H. J. WRIGHT.

HOUSE-RAISED VERSUS AUTUMN-SOWN ONIONS.

I HAVE recently been planting out a large number of house-raised Onion plants. They were fairly strong, but would have been better could they have been kept nearer the glass, and had in the earlier stage of growth a little more warmth. But the friend who raised them in shallow boxes for me did his best. Still it is evident that it is only where there is ample glass room can much attention be given to early-raised Onion plants, seeing that to do them well it is not only needful to sow very early in the year in shallow pans or boxes, but also to have other pans or boxes at disposal into which to prick off the plants thinly, and thus enable them to become stout and strong ere the time for transplanting comes. In a garden where wonderfully fine Onions from glass-raised plants are produced each year, I saw early in the month of April fine plants, about 9 inches in height, that had been planted some two or three days previously. Such plants could of course be raised only where, as in this case, there was ample house and frame space at disposal.

Now that is not everyone's case, and, indeed, there are many cases in which it is very difficult to find any but the most elementary accommodation, as even if there be a greenhouse or two or some frames they are usually early in the spring so full of tender plants or something or other of necessity that it is not practicable to find needful space for several pans or boxes of Onion plants. No doubt there are instances where determination to have such plants for dibbling out in April surmounts all difficulties, but it is not everyone who can accomplish so much. Then it becomes a question as to how far all this trouble may not be avoided with success by making outdoor sowings in the autumn. Onion plants are proverbially hardy, although unless unavoidable there is no need for sowing in a wind-swept position.

Most gardeners have some sort of shelter, but even in that case the more the plants are fully exposed to light and air the better. Very commonly sowings outdoors are made early in August. That is all very well where the plants are required for winter and spring bulbing, and the soft white-skinned *Lisbon* is as good as any other for the purpose, seed being also cheap. But for spring transplanting to secure not only fine bulbs but good keepers it is better to sow any of the ordinary spring varieties, for there is in them little or no difference in the matter of hardiness. It is wisest, however, not to sow for this purpose until about the last week of August or first in September, though the exact time must be regulated by site, soil, and local conditions of weather. Then to transplant in this way not a very large area of ground need to be sown. Rows may be not more than 8 inches apart, but the sowings should be comparatively thin, to enable the plants to become stout and sturdy, yet not drawn.

Should very hard weather ensue much of protection, if thought needful, may be furnished by strewing dry leaves amongst the plants; but if biting east or north winds be shut out it is not probable that the plants will suffer. Very much stouter and harder are plants so wintered to any raised under glass, whilst they give no trouble and have the advantage of being ready for transplanting at any moment in the early spring when the ground is ready. It is, of course, desirable that in lifting these plants great care be exercised to prevent breaking the roots, also that the soil on which planted be well prepared and the planting be done with all possible care. Onions so put out have before them a longer season, and it is in that way such fine mature bulbs are produced.—PRACTICE.

HERBACEOUS CALCEOLARIAS.

CHINESE *Primulas*, *Cyclamens*, and *Cinerarias* are now practically over for the season, and the time of *Calceolarias* is at hand. No doubt we shall see these plants in fine form at the Temple Show on the 19th of May; but as the weather has so long been genial there may be difficulty in some cases of keeping the plants at their best.

Early sowing and growing the plants in warmth, be it never so trifling, has the effect of assisting them to bloom early, a matter of little consequence when needed only for home decoration. When, however, required for exhibition at a given time, and in consequence have to be placed in a shaded house and retarded, the result invariably is loss of colour, thin floescence, irregular shaped flowers, and general lack of freshness and effect. Thus plants that have been so treated, although they may come from a first-rate strain, always wear an inferior aspect to those plants that have been grown under cool treatment and had ample exposure to light and air. Whilst so many sow seed early in the summer, the best growers defer sowing till July, and even so late as the first week in August.

Seed should be sown thinly in 5 or 6-inch pots, the soil kept just moist, and the pots well shaded. That prevents evaporation, whilst full exposure to light does not assist germination. When the seedlings are

well up they may have ample exposure, except that at that time of the year any ordinary greenhouse in which raised should be shaded during hot sunshine. The seedling plants are best transplanted thinly into other pots or pans, as soon as large enough to handle, for whilst no effort to incite undue growth is desirable, yet it is well to prevent any check being given to them from the first, as *Calceolarias* being of such succulent nature are very impatient of check.

Early in the winter the plants may be put singly into small pots, using sandy loam, with a very moderate addition of well-decayed leaf soil. Any stimulating mixture should be avoided, as these produce luxuriant growth in an early stage, and that is detrimental to flower production later. Then whilst the plants should at that time of the year be kept near the glass and have ample light they ought to be kept rather dry, and quite cool. Indeed, all the winter they simply need to be kept from frost. Having too, for such a comparatively limited root area, such abundant leafage the plants possess considerable moisture-absorbing powers, hence so much less water is needed at the roots than is required by some other plants. The plants make very little top growth during the winter, but roots are extended, so that by February they may be shifted into 48's, and with increasing light and warmer temperature, growth becomes more free. All the same, the great object of the grower should be not to promote strong leaf growth, but rather ample root action.

Early in April the plants may be got into 7-inch pots (a capital size for them to bloom in), and still kept cool, not overwatered or stimulated, and also frequently fumigated to check the production of aphids. The plants bloom in May, as dwarf, compact, sturdy, and perfect as can well be conceived. If at the Temple show plants so described be found, it may be taken for granted that they have been grown very much under the conditions here referred to, whilst plants that are tall or drawn have throughout had too much of warmth. Of all the tender plants that are raised from seed and produce beautiful flowers, none perhaps so much appreciates cool treatment as the herbaceous *Calceolaria*—A. D.

ROYAL HORTICULTURAL SOCIETY.

PROVINCIAL SHOWS.

PERHAPS, however, this title is going too fast and too far—not, however, in the way of novelty, but of revival. It is now many years since I was able to allure the Royal Horticultural Society to its first bold plunge into the provinces. The venture resulted in a clear profit of £200, and a very fair amount of honour and glory to the authorities concerned. From that day to this I have never been able to understand why the Society could not have held at least one successful show in the provinces every year. I am, of course, tolerably familiar with its attempts and failures. Without re-writing ancient history, or attempting to award either praise or blame, I only put down the failures to accidents that might mostly have been avoided.

In popular centres and populous districts, and the two may not always be identical, the Royal Horticultural Society should be able to command not only horticultural but financial success. The system of guarantors and guarantee funds reduced the central risks to a minimum by spreading it over the widest possible local areas. Local interest also kept pace with local responsibility, and these two proved powerful factors in originating and sustaining the first provincial show of the Royal Horticultural Society. The Council of ten, so ably advocated in the *Journal of Horticulture* last week (see pages 387 and 388), is a far humbler enterprise than the revival of provincial shows, under the joint or sole control of the Royal. It seems to me, however, a step likely to prove useful in itself, and to lead to the adoption of more ambitious projects than the establishment of a sort of show within already great shows at such important horticultural centres as York and Chester. There need be no conflict between the central and local authorities, though the arrangements suggested are more likely to cause friction than the holding of independent exhibitions by central societies in the provinces.

The great object should be the fusion of town and country, metropolis and provinces, in perfect harmony in combined efforts to raise the science and practice of horticulture to the highest possible level of uniform excellence, more exhibitions, embracing wider areas, supported by central and local talent would break down metropolitan pride, if indeed any remain, and extinguish local jealousies; and, as you forcibly observe, nothing but good in the aggregate can be the eventual outcome in developing the greatest amount of skill in the production of flowers, fruits and vegetables in various districts.

Well organised, richly furnished shows are object lessons of the most powerful and fruitful character, living pictures of the richest and best of the earth's products, constituting centres of delight to thousands who not only enjoy them, but are inspired with the ambition to return home and grow as good, or better, in their own homes and gardens.

The central society seeing and certifying merit will foster, stimu-

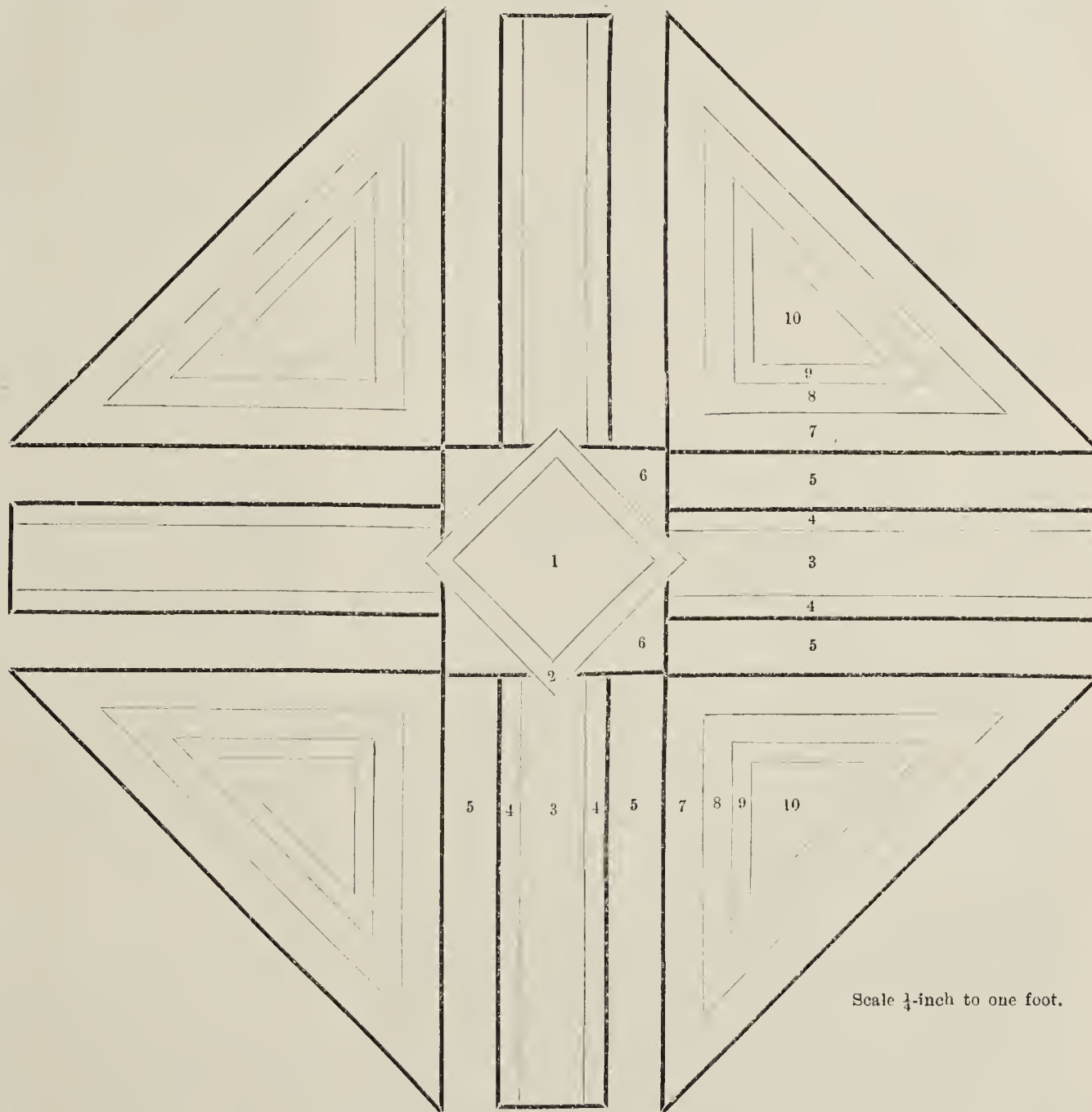


FIG. 70.—BED IN THE DUCHESS GARDEN, BELVOIR CASTLE, SPRING, 1896. (See p. 415.)

1. Double red Daisy Rob Roy dotted with plants of *Carex variegata* 1 foot apart.
2. *Euonymus radicans* variegata.

3. *Aubrietia græca*.
4. Double pink Daisy.
5. Grass.
6. Double white Daisy.

7. Two rows Golden Feather.
8. Pansy Blue King.
9. *Arabis variegata*.
10. *Aubrietia græca* Leichtlinii.

late, and extend its production. Notwithstanding our immensely improved and quickened means of transit it is found practically impossible to convey all our horticultural treasures to London, Manchester, Edinburgh, Glasgow, Birmingham, York, Shrewsbury, Dundee, or other great centres. And, of course, it is far easier to transport societies, committees representatives from place to place, than to run heavy or perishable exhibits all over the country.

But, in fact, successful exhibiting involves a good deal of both. In the past we have had perhaps rather too much of carrying exhibits to the places of show. The plan of carrying the judges and managers further and the products shorter distances well deserves a wider trial. There is room enough and to spare, however, for the wider development of both methods. The rapid rise and progress of the National Co-operative flower shows at the Crystal Palace afford a monster object lesson of what indomitable perseverance and quenchless zeal can accomplish among growers mostly inexperienced in the art of horticulture and the difficulties of winning first prizes against such fierce competition as prevails at the Palace. And yet these amateurs and artisans were novices in the gentle art of sweetness and light contrasted with the seasoned exhibitors

at the Drill Hall, York, Edinburgh, travel hundreds of miles with their products, at the Palace carry off the highest prizes, and, more and better still, teach some of the older stagers in the delightful craft, which can never be entirely learned, some new riches in taste or practice.—D. T. FISH.

LONDON'S SPRING FLOWERS.

HAMPTON COURT.

THE name of Hampton Court is a household word with every Englishman, either on account of its historical connections, its big Vine, or may be, its carpet bedding, while to the Londoner in particular it holds a high reputation as being an ideal spot for a Bank Holiday trip or a picnic; but to speak of it as London is stretching the boundary somewhat, as it lies well outside the veil of metropolitan smoke. Correctly speaking, then, it may appear somewhat out of order to include it in these notes, which are supposed to tell only of the spring flowers in the great city; but then the average Londoner looks on Hampton Court as being as much his own property as Hyde Park, and for this reason it is included in the category.

The other day, when taking a constitutional walk through the suburbs, I happened to pass some remark on the beauty of a fine Horse Chestnut, just coming into bloom, to a friend who accompanied me. "Do you call that a fine Chestnut?" he replied. "Have you never seen those in Bushey Park?" I was rather loth to admit it, but there was no help for it, so regretted to say I had not. He looked at me for a moment in a pitying sort of manner (bear in mind he was a Londoner), and after a few sarcastic inquiries as to where I had been brought up, advised me to go and see them without fail, at the same time adding, "And while you're there don't forget to go and look at the Polyanthus at Hampton Court." I of course, like everyone else, had heard of the carpet bedding at the famous Palace, but of its spring flowers never; hence my visit, hence these notes.

"Go up the river," further remarked my friend; "it's a delightful trip." I followed his advice, and reciprocate his opinion—that is, if you have the day before you, and are not particular whether you see Hampton Court or not; but if you are at all anxious on that score, well the four or five hours' slow—unquestionably slow—steaming becomes, to say the least of it, tedious; and then, after running aground several times, after sundry small collisions with various river craft, and having patiently awaited the convenience of the men in charge of the locks, who apparently make it a rule never to hurry themselves, you notice, on approaching the stately pile of Hampton Court, a board slung over the bow of the steamer, which reads, "This vessel will return in half an hour." Well, then I say it becomes positively annoying, and in my case the aid of the iron horse was enlisted for the return journey.

In spite, however, of these little drawbacks a trip up the placid waters of Father Thames is full of interest, especially after a lengthened sojourn amongst bricks and mortar. It has been said that the most pleasing pictures of England are found on the rivers, and indeed a spring day on the Thames seems to verify such a statement; the vivid green of the bursting vegetation, the well kept gardens, gay with spring flowers, sloping down to the river's brink, with here and there a peep at an Apple orchard—a perfect mass of blossom; and further on, apparently unkempt and uncared for except by Nature's gentle hand, the banks are lined with golden yellow May flowers, and modest little "Forget-me-nots" are seen peeping forth from under the protecting branches of the Weeping Willow. These and a hundred other features all appeal forcibly to the lover of Nature, who readily admits that she has no more pleasing aspects than that seen from the smiling river.

But to return to my subject, one can hardly realise that Hampton Court is after all a public playground, and fails to strike one in the same light as any of the London parks. It may be its romantic history, its delightful situation, or its rural surroundings that give it a charm so peculiarly its own. It has played no small part in the history of our country, and one cannot help admiring the taste of that great prelate Cardinal Wolsey, its original founder, in choosing a site so thoroughly suitable to serve his purpose. With the river running close by, and miles of rich park scenery, undulating and well wooded, stretching away on every side, even in those days Hampton Court must have been beautiful, and to think of it as the pompous Churchman's home seems to re-echo the words of the old song:

"He who leads a good life is sure to live well."

But what food for retrospection can be found when lingering in that old-fashioned courtyard or strolling along those magnificent avenues of Limes and Chestnuts? Think of that haughty prelate who could twist a king round his little finger, so to speak, and as the Bard of Avon puts it:

"Sounded all the depths and shoals of honour."

Yet as he drew near his end, charged his friend Thomas Cromwell to

"Fling away ambition, as by it fell the Angels."

What would have passed through his mind could he have foreseen his princely domain turned into a public pleasure ground of the masses, considered in his day of no consequence but to pander to the vanity and satisfy the caprices of such as he.

Our business, however, lies not with Hampton Court of the past, but with Hampton Court of the present, and as such I will speak of it. The closing day of April, as I have already stated, is bright and pleasant;

the giant Elms, and other forest trees, are just assuming their bright mantle of verdure, and speaking of the former reminds me that perhaps all visitors to Hampton Court have not noticed the numerous clumps of Mistletoe growing on even the tallest branches, the seeds, no doubt, having in the first place been deposited there by birds. The grass everywhere is green and refreshing, and the flowers, especially the Polyanthuses, well, simply beautiful.

"Old-fashioned," do you say. Granted; but yet charming, and quite in character, for are not the gardens and the whole surroundings old-fashioned. To my mind the Polyanthus is not used for spring bedding nearly so much as it ought to be, but perhaps this may be due to the monopoly of poor strains and inattention in cultivation. In order to have a really effective display of Polyanthuses, the first point is to obtain a good strain, and the second is to stick to it; this done, satisfaction is the result.

It was a happy inspiration that led Mr. A. Graham, the able superintendent of the grounds, to make a specialty of Polyanthuses for spring bedding. It requires but a few minutes of his company to prove that he is a true florist, and a walk with him round the beds is as interesting as it is instructive. Here is a bright mass of whites and yellows; how pleasingly they blend, with their white, cream, yellow, and orange tints. "That's the kind of thing to aim at," said Mr. Graham, pointing to a fine sturdy plant with numerous stout footstalks, standing prominently above the foliage; "that plant is a picture," continued he, standing back to survey it with a critical air.

I agreed, and inquired how long he had made a specialty of Polyanthuses. "Well, it's about four years since I started with the white and yellow strains, which I have now got to a good pitch. Last year was my first with the coloured ones, and you see there is room yet for improvement." Closer examination proves this, though the latter would satisfy many people less critical. The mixtures of whites and yellows occupy beds to themselves, as also do the coloured varieties.

"But how do you get such fine plants? Do you split the old roots after flowering?"

"Oh! no," replied Mr. Graham; "not one of the plants you see is above a year old; they are all raised from seeds sown in the spring."

"Then you save your own seeds for the purpose?"

"Certainly," was the answer, "and sow on prepared beds outdoors, from which the seedlings are transplanted. The Polyanthus appreciates good treatment, and to obtain fine plants there should be no stint of well-decomposed manure, as they fairly revel in it." "And what about water?" I asked, noticing a hose-pipe. "Well, here they require plenty, as the soil is light and shallow," and the refreshed appearance of a bed that had just been soaked re-echoed the truth of the statement.

"Now, that is my idea of a coloured Polyanthus," remarked my guide, walking straight to a plant that he had evidently seen before. It was a beautiful rich crimson of sturdy habit, so striking that it was easily discerned. Amongst others those of a lilac shade appear the most floriferous, but it is difficult in the varying mass of colour to pick out any one and call it the best. Any degree of sameness that might arise from the large beds of whites or yellows is done away with by the bright flowers of Crimson King Tulips planted indiscriminately in between, while the coloured beds are made even more bright by Keizer's Kroon and others. As here as in other Royal Parks the bulbs were supplied by Messrs. Jas. Carter & Co. of Holborn, they reflect much credit on the firm.

"I suppose you want to know the meaning of that," said Mr. Graham, probably noticing my looks of curiosity on passing several beds from which the Polyanthuses had been bodily uprooted.

"Well, a friend of mine sent me some seeds of what he represented as being a good strain. They, however, turned out very inferior, so I pulled them up lest they should contaminate the whole. Visitors here wonder why I did so, but to a gardener no explanation is needed," he continued, at the same time stooping down to pick the flowers off a "mongrel" in one of the other beds.

One is rather amused at the remarks passed by visitors, who pause in crowds to examine the flowers. I overheard one lady say to her companion, "Look, dear, isn't that a beauty, it's just like a Gloxinia." Whether this was intended as a compliment to the Gloxinia or the Polyanthus I cannot say, but it was the first time I had heard of such a comparison, so appealed to the longer experience of Mr. Graham, who only smiled; he is evidently used to hearing such peculiar observations.

"I cannot think why Polyanthus are not more used for growing in pots," said Mr. Graham. "A plant like that, for instance," he continued, pointing to a floriferous specimen by way of illustration, "what could be more effective for the adornment of conservatory or drawing-room? besides, they lift so well, and if watered after potting do not suffer in the least." The suggestion is a good one, and some of our readers may think it worthy of trial.

Long might one linger amongst the flowers admiring respectively or collectively, but my pen has run wildly on, so just a peep at the Bushey Park Chestnuts and then adieu. On the way the somewhat unique wording of one of the notice boards attracts attention, which reads as follows:—"It is expected that the public will protect what is intended for public enjoyment." A pleasing deviation certainly from the stereotyped "Visitors are requested to keep on the gravel walks," or "Please do not touch the flowers," and so forth, so generally seen in public resorts, while the importance of protection is as fully represented; and as Mr. Graham makes no complaints of damage, it speaks highly for the general good conduct of the British public.

The Chestnuts are not yet fully in flower, but here and there is

noticed a mass of blossoms along the magnificent avenue. How fine this rich mantle of verdure, and how delicious the flowers! but time flies, evening shades are falling, and trains will not wait, at least not for a journalist, so a parting glance at the well-kept grounds, a hearty hand-shake with the genial Superintendent, a hasty rush for the train, and next and last London's smoke.—G. H. H.

ROYAL HORTICULTURAL SOCIETY.

DRILL HALL, MAY 5TH.

VISITORS to the above hall on Tuesday were rewarded by seeing a fine show, as the whole of the available space was monopolised by exhibits of high merit. The Orchid section was not largely filled, but what was lacking in quantity was fully made up in quality, as flowers choice, varied, and diversified in hue were shown from several of the best collections in the kingdom. The chief duties therefore lay with the Floral Committee, who had a large number of exhibits to deal with, and many awards were given. Fruit and vegetables were not largely represented. A considerable amount of the hall space was taken up by a choice and varied collection of paintings of Irises, the work of the well-known floral artist Mr. M. J. Caparn.

FRUIT COMMITTEE.—Present: Philip Crowley, Esq. (in the chair); with Dr. Hogg, and Messrs. T. F. Rivers, J. Cheal, H. J. Pearson, A. F. Barron, G. W. Cummins, G. Bunvard, T. J. Saltmarsh, Alex. Dean, J. W. Bates, T. Glen, G. Wythes, G. Reynolds, H. Balderson, and G. H. Sage.

A collection of large sticks of Rhubarb came from the Society's gardens at Chiswick. Mr. G. Wythes, gardener to Earl Percy, Syon House, sent tubers of a new seedling Potato, "Wythes' Seedling," the result of a cross between Beauty of Hebron and Myatt's Prolific. The award was withheld until the Committee had had an opportunity of testing the Potato when cooked. Mr. Wythes also showed Brown Turkey Figs, Hamsden June Peaches, and Laxton's Royal Sovereign Strawberries.

Messrs. Vilmorin & Co., Paris, were granted an award of merit for an Olive-shaped Radish. Radishes were also shown by Messrs. R. Veitch, Exeter. Mr. D. Shepherd, gardener to Mrs. F. K. Thackwell, Cork, Ireland, sent tubers from a seedling kidney Potato. H. Boghurst Fisher, Esq., Pitt Place, Chelmsford, sent Apples Sturmer Pippin. Messrs. Laxton Brothers sent fine fruits of Strawberry Royal Sovereign. Several Melons were shown, including one from Mr. G. Fish, gardener to Joseph Wheatley, Esq., Mirfield, and two from Mr. W. Mead, gardener to W. A. Henderson, Esq., Buscot Park; but none of them was considered good enough to obtain an award.

FLORAL COMMITTEE.—Present: W. Marshall, Esq. (in the chair); with the Rev. H. H. D'Ombrian and G. H. Engleheart, and Messrs. J. Fraser, H. B. May, H. Herbst, R. Dean, G. Stevens, R. B. Lowe, J. Hudson, J. F. McLeod, W. Bain, G. Gordon, T. Peed, J. D. Pawle, C. E. Pearson, C. E. Shea, J. W. Barr, H. J. Jones, E. Beckett, C. Blick, G. Paul, J. T. Bennett Peck, J. Fraser, E. Mawley, R. M. Hogg, and J. Walker.

A group of cut flowers came from the Royal Gardens, Kew. It comprised Rhododendrons in great variety, with several species and varieties of Tulips. A few of the latter were also staged by Mr. W. B. Holland, Cork. Mr. Curtis, gardener to S. L. Still, Esq., Woodside, Wimbledon Park, showed flowering plants, including well grown Amaryllis, Calceolarias, Pelargoniums, and Cinerarias.

One of the brightest exhibits before the Floral Committee was the table of plants arranged by Messrs. J. Veitch & Sons, Chelsea. The number of Tulips was very large, and contained amongst others King of the Yellows, Golden Eagle, Rose Aplatie, Pink Perfection, White Swan, Isabella Stanley, Rosa Mundi, Goldfinch (a fine new yellow), Queen of the Netherlands, Nelly; while of the Tulip species the best were fulgens, cornuta, retroflexa, elegans, Picotee, and Bouton d'Or. Besides the Tulips there were groups of Polyanthus Narcissi, Campanelle Jonquils, Muscaris, and single Anemones.

The same firm also sent a large and remarkably fine collection of plants, including both hardy and greenhouse sections. Amongst the former were specimens of Rubus delicosa, Azalea Vaseyi, Chionanthus virginicus, Cornus florida pendula, and Prunus sinensis rosea; and the latter was represented by Erica Cavendishi, Leschenaultia biloba, Boronias elatior and megastigma, Richardia Elliottiana, Epiphyllum Russellianum, Makoyanum, Begonia Arthur Mallet, Anthuriums in variety, and other fine specimens of flowering plants, the whole being tastefully arranged with Palms and Ferns.

The quality of the Anthuriums staged by Mr. W. Bain, gardener to Sir Trevor Lawrence, Dorking, was very high. Several species and varieties were shown, and they attracted a considerable amount of attention. Mr. Bain also sent Cannas Roi des Rouges and Mine d'Or. The hardy plants, such as Berberis vulgaris purpurea, Wistaria sinensis, Genista scoparius, Akebia quinata, Exochorda grandiflora, Kerria japonica, and others, with splendid Violas from Messrs. J. Cheal and Sons, Crawley, were very bright and charming.

A group of foliage and flowering plants from Messrs. J. Laing and Sons, Forest Hill, was very beautiful, and extremely diversified. Not only were the plants well grown, but the arrangement was also good. Amongst the flowering plants were bright Gloxinias, Ericas, Cannas, Clivias, various Orchids, including Eulophiella Elizabethæ, with Palms, Ferns, Crotons, Dracænas, Caladiums, and other foliage plants.

Messrs. J. Peed & Sons, Norwood, were represented by a showy display of flower and foliage plants, which included Azaleas in variety, with Palms, Dracænas, Ferns, and Caladiums; included in the latter were Princess Olga, Baronne Clara de Hirsch, Ibis Rose, Madame Jules Picot, and others. Mr. R. Jensen, Chingford, sent plants of a sturdy habited semi-double Zonal Pelargonium King of Denmark, the flowers of which are of a salmon pink hue. Messrs. Stroud Brothers, Green Lanes, N., exhibited plants of a new market Fern, Pteris Drinkwateri, of free and graceful habit.

Very striking was the large collection of hardy flowers staged by Mr. T. S. Ware, Tottenham. Amongst others were noticed the delicious canary yellow Wallflower, Cheiranthus alpinus, Tree Pæonias in variety, Primulas Sieboldi, Zephir, and farinosa, Allium saxatile compactum, Dielytra spectabilis, Erinus alpinus, Cypripedium calceolus, Trollius Orange Globe, and Anemone palmata alba, with Irises in variety.

The group of plants staged by Messrs. W. Cutbush, Highgate, was exceptionally attractive and made a fine display. Included in the group were fine blooms of Carnations Uriah Pike and Souvenir de la Malmaison, Azaleas and Ericas in variety, with Boronias and striking masses of Saxifraga pyramidalis. The same firm also showed a collection of hardy flowers, comprising Saxifragas Wallacei and muscoides purpurea, Epimedium violaceum, Anemone fulgens, Iberis superba, Delphinium Cashmerianum and others.

The Roses staged by Mr. W. Rumsey, Waltham Cross, were much admired, and consisted of both pot plants and cut blooms. Among the former were Crimson Rambler, Ulrich Brunner, Madame Isaac Periere, Dupuy Jamain, Magna Charta, Duke of Teck, Dr. Andry, Earl of Pembroke, and Royal Standard; while of the latter were Maréchal Niel, The Queen, and Niphetos. Mr. Rumsey also staged plants of Azalea indica Mayflower. Roses in a cut state and of superb quality also came from Mr. George Mount, Canterbury, who received a gold medal for magnificent blooms of Mrs. John Laing, Baroness Rothschild, Cleopatra, Anna Ollivier, Fisher Holmes, Ethel Brownlow, Captain Hayward (splendid), The Bride, Niphetos, Catherine Mermet, La France, Ulrich Brunner, Maréchal Niel, and others.

Messrs. Young & Dobinson, Stevenage, staged a collection of seedling Pansies, Auriculas, Tulips, and Stocks. Professor M. Foster, Cambridge, sent flowers from a collection of hybrid Irises, several of which were striking. Mr. M. Pritchard, Christchurch, staged hardy flowers, comprising Anemones, Geums, Cheiranthuses, Genistas, Trilliums, and others. Mr. F. Cant, Colchester, sent plants of a new seedling Rose, Mrs. Frank Cant, a Hybrid Perpetual of good habit and light pink tint.

Messrs. Kelway & Sons, Langport, were represented by a large collection of Pæonies, Irises, and Pyrethrums. Amongst the first-named Mrs. Bancroft, Cardinal Vaughan, Lady Teazle, Lord Leighton, and Lord Selborne were very striking, as also were Warrior, Prince Ferdinand, Diamond, Decoy, and Ruth amongst the Pyrethrums. Roses and Tulips came from Mr. J. Walker, Oxon, the former being represented by superb flowers of Maréchal Niel. Amongst the latter were Gold Cup, Mabel, George Hayward, Talisman, La Circassiana, Bessie, William Lee, Richard Yates, and others. A. H. Smee, Esq., Carshalton, sent a plant of Ismene amancaes. Messrs. W. Balchin & Sons, Hassocks, sent flowers of Calla Elliottiana and Posoqueria longiflora.

Mr. C. Blick, gardener to Martin Smith, Esq., Hayes, sent plants of a white seedling Carnation Nell Gwynne, a fine large flower, but lacking in scent. Mr. B. M. Tomlinson, Chellaston, sent a flower of a white Rose sport from Maréchal Niel. Messrs. W. Paul & Son, Waltham Cross, sent plants of a new variegated Ivy Jubilee, and a thickly bloomed specimen of Pyrus malus floribundus Scheideckeri. Caladiums and Crotons in variety came from Messrs. Hugh Low & Co., Clapton, who showed amongst the former well-grown plants of John Peed, B. S. Williams, Mrs. Harry Veitch, Charlemagne, and Madame Alfred Blue Major; and the latter Thomsoni, Russelli, Gordoni, and Chrysophylla were the most attractive.

A large and extremely varied collection of Tulips came from Messrs. Barr & Son, Covent Garden. Amongst the host exhibited were Tulipa saxatilis, Tulipa vitallina, Darwin Tulips, Purple King, Bronze King, The Sultan, Prince Henry, Queen of Lilacs, Hecla, Violet Queen, and Loveliness. The same firm also staged Phloxes Nelsoni atro-purpurea and subulata pallida, and plants of Alyssum geomense.

A fine collection of flowering plants came from Messrs. Paul & Son, Cheshunt, comprised of Rhododendrons, Azaleas in variety, Roses, Lilacs, Pyrus Malus Scheideckeri, Prunus sinensis rosea, Myosotis rupicola, with Alyssums, Saxifragas, Scillas, Gentianas, Iberises, Hutchinsias, and other hardy flowers, the whole making a very pleasing effect.

ORCHID COMMITTEE.—Present: H. J. Veitch, Esq. (in the chair); and Dr. Masters, with Messrs. J. O'Brien, A. H. Smee, R. B. White, H. M. Pollett, W. H. Protheroe, T. W. Bond, H. J. Chapman, J. Douglas, H. Ballantine, C. Winn, W. Cobb, T. B. Haywood, and S. Courtauld.

Two Orchids only came from C. J. Lucas, Esq., Warnham Court, Horsham. These were a fine variety of Odontoglossum Halli, named grandiflorum, and a plant of Bulbophyllum tremulum. Messrs. J. Veitch and Sons, Chelsea, arranged a strikingly beautiful exhibit of Orchids. The colour of the flowers was particularly clear and pleasing, while the plants were plainly in the best of health. Amongst the most noticeable were Cattleyas Mendeli albescens, Schilleriana, Walkeriana, citrina, Schrödera in variety, and Lawrenceana; Lælias purpurata, latona, Lælio-Cattleya zephyra, Cattleya intermedia alba, Chysis langleysensis, Miltonia Bleuiana nobilior, Dendrobium thyrsiflorum, D. transparens, Cymbidium Lowianum, Odontoglossum Pescatorei, O. crispum in

variety, *Cypripediums* in variety, *Colax jugosus*, *Anguloa uniflora* Turneri, *A. Clowesi*, *Maxillaria Sanderiana*, and *Lycaste Deppei*.

C. J. Cobb, Esq., Tunbridge Wells, staged a plant of *Odontoglossum Roezli*, Cobb's variety; J. F. Alcock, Esq., Northchurch, a pure yellow *Cattleya citrina*. Mr. T. Masterton, gardener to W. S. Ellis, Esq., Dorking, exhibited several *Odontoglossums*, mostly varieties of *crispum*, besides *Dendrobium Hildebrandi* Miss Victoria. Mr. S. J. Ryder, gardener to C. Young, Esq., Sevenoaks, sent a plant of *Odontoglossum polyanthum*, carrying a grand spike of flowers. *Odontoglossum crispum* in variety were sent by Mr. Roberts, gardener to R. Brooman White, Esq., and by Mr. W. H. Robbins, gardener to W. Vanner, Esq., Chislehurst.

Mr. H. Ballantine, gardener to Baron Schröder, The Dell, Egham, only staged a few Orchids, but they were of splendid quality. The exhibit comprised a curious *Dendrobium thysiflorum* Lowi, a fine plant carrying several spikes; a *Lælio-Cattleya*, resulting from a cross between *Brassavola Digbyana* and *Cattleya Mossiæ*; *Vanda teres gigantea*, *Cypripedium Gertrude Hollington*, *Masdevallia grandiflora*, with *Odontoglossums* in variety. Mr. H. Whiffen, gardener to J. Bradshaw, Esq., The Grange, Southgate, exhibited a group of Orchids in which were *Cattleyas*, *Oncidium*s, *Odontoglossums*, and others. Mr. G. W. Cummins, gardener to A. H. Smee, Esq., Wallington, sent a plant of the so-called blue *Cattleya*, and a fine *Oncidium* species for naming. Three fine plants of *Cattleya Lawrenceana* and *Dendrobium nobile* came from Sir Weetman Pearson, Bart., Paddockhurst, Crawley; while Mr. Downes, gardener to J. T. Bennett-Poë, Esq., Cheshunt, sent splendid examples of *Cattleya citrina*. Mr. Bond, gardener to C. L. N. Ingram, Esq., Elstead, Godalming, staged two *Cattleyas*, and a *Lælio-Cattleya* named *Endora*, receiving an award of merit for the latter.

Messrs. F. Sander & Co., St. Albans also sent some splendid Orchids, including *Cypripedium grande*; *Dendrobiums Bensoniæ* and *densiflorum*; *Spathoglottis Lobbi*, *Oncidium varicosum Rogersi*, *Lycastes Deppei* and *Skinneri*, *Odontoglossum phalænopsis*, *Cœlogyne Dayana*, and *Eria bractescens*.

CERTIFICATES AND AWARDS OF MERIT.

Acer palmatum linearilobum (J. Veitch & Sons).—A narrow pale green leaved variety of graceful habit (award of merit).

Canna Roi des Rouges (W. Bain).—A superb *Canna*. The large flowers are rich fiery crimson (award of merit).

Cardamine Miss Jekyll (Paul & Son).—A charming floriferous hardy plant, with lilac hued blooms (award of merit).

Chysis langleyensis (J. Veitch & Sons).—This is the result of a cross between *C. Chelsoni* and *C. bractescens*. The sepals and petals are white with a large buff blotch towards the tip. The lip is rosy lake veined with yellow (award of merit).

Dendrobium thysiflorum (H. Ballantine).—The flowers of this *Dendrobe* are almost flat. The colour is creamy white with a yellow blotch on the lip (award of merit).

Lælio-Cattleya Endora (T. W. Bond).—Resulting from a cross between *Lælia purpurata* and *Cattleya Mendeli*, this is very beautiful. The sepals and petals are rich deep rose and the lip rich rosy crimson (award of merit).

Odontoglossum crispum Princess (W. H. Robbins).—A fine *crispum*. The blotches are plum colour, with the exception of that on the lip, which is chocolate (award of merit).

Odontoglossum Halli grandiflorum (C. J. Lucas).—A magnificent *Halli* that perfectly justifies the varietal name (award of merit).

Odontoglossum Roezli, Cobb's variety (W. Cobb).—The flowers of this variety are almost pure white. There is a small yellow blotch on the lower sepal (award of merit).

Pelargonium King of Denmark (R. Jensen).—A Zonal of great merit. The habit is dwarf and sturdy. The flowers are semi-double and of a rich salmon pink shade (award of merit).

Posoqueria longiflora (W. Balchin & Son).—The creamy white flowers of this plant are very long and delicately fragrant. The foliage also is handsome (first-class certificate).

Pteris Drinkwateri (Stroud Bros.).—A fine decorative *Pteris*, with broad graceful fronds (award of merit).

Pyrus malus floribunda Scheideckeri (Paul & Son and W. Paul and Son).—This is a magnificent variety, literally clothed with flowers (award of merit).

Radish, Olive-shaped (Vilmorin & Co.).—A very small growing scarlet *Radish*, with very small leafy growth (award of merit).

Rhubarb Collis's Seedling (R.H.S. Gardens).—This variety produces very heavy sticks, bright red in colour, thick, and of good quality (award of merit).

Rhubarb Victoria (R.H.S. Gardens).—Long, substantial-looking sticks, crisp in texture, and of good substance (award of merit).

Rose Mrs. Frank Cant (Frank Cant).—This *Rose* was raised from seed, obtained from a crossing of *Madame Gabriel Luizet* and *Baroness Rothschild*. The habit is splendid, while the soft pink colour of the flowers is very charming (award of merit).

Tulipa saxatilis (Barr & Sons).—This is a small-flowered species. The upper portion of the flower is light rose, and the base deep yellow (award of merit).

Tulipa The Sultan (Barr & Sons).—The colour of this *Darwin* is rich maroon black. The shape is almost perfect, and the habit good (award of merit).

Tulipa vitallina (Barr & Son).—With large flowers this is a charming species. The colour is creamy white suffused with green (award of merit).

Vanda teres gigantea (H. Ballantine).—This is a superb form of the type. The flowers are large and the colour rich (first-class certificate).

Awards.—The medals granted by the Orchid Committee were a silver-gilt *Flora* to Messrs. J. Veitch & Sons; a silver *Flora* to Baron Schröder; and silver *Banksians* to W. S. Ellis, Esq., Dorking; J. T. Bennett-Poë, Esq., J. Bradshaw, Esq., and Sir W. Pearson, Bart. The Floral Committee awarded a gold medal to Mr. G. Mount; silver-gilt *Floras* to Messrs. Barr & Son and Messrs. Jas. Veitch & Sons; silver *Floras* to Mr. J. Walker, Messrs. W. Cutbush & Sons, Mr. W. Rumsey, Mr. T. S. Ware, Messrs. Paul & Son, Messrs. J. Veitch & Sons, Messrs. J. Laing & Sons, and Mr. M. J. Caparn; silver *Banksians* to Messrs. J. Peed & Sons, Messrs. W. Cutbush & Sons, Messrs. Kelway & Son, Messrs. Cheal & Son, and Mr. M. Richards; and a bronze *Banksian* to Mr. S. L. Still.



HARDY FRUIT GARDEN.

Strawberries.—Strawberries about to bear a crop must receive attention in pulling up strong rooting weeds, and hoeing down the smaller. Sun and wind soon wither up the fallen weeds, when they may be raked off along with the dry remains of former mulchings, leaving the soil between the rows clean. Younger plants should have the soil kept clean and free from weeds by hoeing. Weakly plants ought to have the first trusses of bloom removed. If they do not show blooms at all the plants are useless, and ought not to be retained, however vigorous they may appear otherwise.

Applying Artificial Manure.—In the case of well-established beds, the plants being strong, well rooted, and possessing bold trusses of bloom, an opportunity is afforded of supplying a nitrogenous manurial dressing to the plants. At this period of the year nitrate of soda is the most effective, because it supplies elements which are likely to be deficient in the soil now, though they may probably be abundant later on in the season. This manure acts quickly, and is especially serviceable on dry soils, accelerating growth, and strengthening the flower trusses. Apply it at the rate of $1\frac{1}{2}$ to 2 lbs. per rod, or 1 oz. per square yard. Sprinkle the manure, which should be well powdered only on the soil over the roots, keeping it away from the crowns.

Soot Dressings.—Soot is excellent and quick acting. Where nitrate of soda is not available soot may be used, especially in a wet season or damp soils. A peck to a rod is sufficient, and it may be washed in with the hose, or applied in showery weather. Another method of using soot consists in forming a quantity into a paste, then mixing with water, and applying round the plants. Clarifying the liquid by adding lime makes it cleaner, and the lime has the effect of liberating the ammonia in the soot, rendering the liquid of immediate effect.

Liquid Manure.—Liquid animal manures are also tolerably quick in action, and of benefit now the flower trusses are swelling. Fresh stable urine diluted with half water, or mixed with a general liquid obtained from stable, cowhouse, or manure heap drainings, can be employed beneficially at frequent intervals until the fruit is of large size.

Mulching.—Spreading a liberal mulching of fairly fresh farmyard manure containing a proportion of long litter is of great importance in conserving moisture in the soil. It also acts as a stimulus to the roots, soluble matter being washed out of it by rain or watering. The strawy material, becoming bleached and dried on the surface, serves as a clean rest for the fruit by the time the latter is ripe. If the manure obtainable is not of a fresh character and littery it will still do as mulching, surfacing it later with fresh clean straw, either in long or short lengths, as a rest for the fruit.

Extirpating Insects on Fruit Trees.—Numbers of caterpillars are often to be found at the present time eating the small leaves and attacking the flowers or miniature fruits of Plums, Apples, and Damson trees. It is possible to apply remedies to wall trees, espaliers, cordons, and bush trees, large standard trees not being so easily dealt with.

Quassia Chip Solution.—Dissolve a quarter of a stone of soft soap in a large vessel of hot water holding 50 gallons. To this add the extract obtained by boiling 5 lbs. of quassia chips in water. This may be used alone in mild cases, or as preventive of attacks of insects; but where there is any difficulty in destroying them add $2\frac{1}{2}$ pints of paraffin to the mixture, thoroughly incorporating the oil first with a quantity of boiling soap and water. Quassia extract may also be obtained as a liquid compound, half a gallon of which, added to 40 or 50 gallons of water, makes a solution at once ready for use. These solutions should be syringed on infested trees, distributing finely and repeating if necessary.

Paris Green.—This is a very poisonous insecticide containing arsenic, and is effective but requires care. It poisons the food on which the insects are feeding by depositing a thin film of the insecticide upon the foliage. This is done by spraying. The paste form of Paris green is the safest, mixing 1 lb. of this in 240 gallons of water. During distribution it must be kept thoroughly mixed so that a uniform strength is maintained.

London Purple.—A similar compound in its poisonous properties is London purple. It may be prepared in the same way as Paris green, using 1 lb. to 240 or 250 gallons of water.

Spraying is the only method by which arsenical compounds can be effectively applied, as it is important that a simple dew-like deposit reaches the leaves and no more. A knapsack distributor is one of the best instruments for the purpose.

If bush fruits such as Gooseberries and Currants are sprayed, the fruit ought not to be used before the compounds have been washed off either by heavy rain or vigorous syringing.

Mulching Fruit Trees.—If the roots of fruit trees are near the surface, it is an excellent plan to endeavour to retain them there by affording abundance of food and moisture within their reach. This proves conducive to a healthy, steady fruitful growth. A dressing of decayed manure an inch thick spread upon the soil as far as the branches extend will enrich soil and encourage growth therein. Recently planted trees and bushes must be kept well mulched, short lumpy manure being the best to apply. Air and warmth can penetrate through it, while its light flaky character serves to prevent rapid evaporation from the soil in hot dry weather.

FRUIT FORCING.

Vines.—*Early Houses.*—Red spider is sure to put in an appearance where early forcing operations are carried on, and this pest on Vines prejudices the current crop while impairing the energies of the Vines, so as to affect that of the following season. Thrips are almost as bad as red spider, and both are usually introduced by plants infested with them. When either or both have obtained a hold prompt measures must be adopted for their destruction. Fumes of sulphur make an end of red spider, and those of nicotine annihilate thrips. The use of water is precluded after the Grapes change colour, as it washes off the bloom and leaves a deposit behind, greatly spoiling the appearance of the fruit; we therefore advise vaporisation with nicotine for the destruction of Vine pests, taking care not to overdo it, as the fumes may injure tender-foliaged varieties, such as Lady Downe's and Muscat of Alexandria. Thrips readily yield to tobacco smoke, but unless strong it has little effect on red spider, white fly, and mealy bug, yet these pests succumb to fumes of nicotine. Early Grapes that are ripe will only require enough fire heat to maintain a circulation of dry air, allowing the temperature to fall to 60° at night.

Second Early Houses.—The fruit of Vines started at the new year is commencing to colour, but as the Grapes swell considerably in ripening a dry condition of the atmosphere retards that and occasions the spread of red spider and thrips. Provide a little ventilation constantly to induce a change of air and prevent the deposition of moisture on the berries, which often leads to "spot." A warm genial atmosphere with a circulation of air is essential to the thorough swelling of the berries and perfection in finish. Maintain the temperature at 70° to 75° by day, and 80° to 85° through the day from sun heat, advancing in the afternoon to 90°, falling with the declining daylight to a night temperature of 65° or even 60°, 5° more both day and night being necessary for Muscats. As the Grapes advance in ripening the moisture should be gradually reduced, and this by increasing the ventilation, as there must not be any diminution of temperature until the fruit is thoroughly ripe. The inside border should have due supplies of water and nourishment.

Midseason Houses.—Attend to thinning the free-setting varieties as soon as the berries are set, but Muscats and other shy-setting kinds should be left until the properly fertilised berries take the lead. If a large percentage of the surplus bunches were not cut off before they flowered no time must be lost in getting them removed, and laterals that have been allowed to extend may be stopped, tied and regulated in accordance with the space at command. Inside borders should have a thorough supply of tepid liquid manure and a mulching of rather lumpy material. Where the Vines need support a little artificially compounded manure may be given at intervals with great benefit, carefully following the instructions.

Later Houses.—Muscats and other shy-setting varieties should be carefully fertilised, operating on fine days when the sun has reached its maximum, employing pollen from free-setting varieties, and maintaining a rather brisk dry atmosphere. A temperature of 70° at night and 75° by day artificially is not too much for Muscats when flowering. Make a selection of the bunches that are to remain for the crop before they come into flower. Attend to regulating the growth, keeping laterals well in hand by judicious stopping, tying down the growths as required, for once scorched leaves never recover freshness. Every care should be taken to secure good colour and firm texture in the leaves by free yet judicious ventilation. Take advantage of sun heat to increase the ventilation early in the day, but close or reduce the openings early in the afternoon.

Vines in Unheated Houses.—The Vines are making rapid progress, and in many instances the growths require disbudding, stopping, and tying. One shoot is sufficient to each spur unless they are wide apart, when two may be left, but there must be scrupulous attention to preventing crowding of the growths, every leaf having full exposure to light and air. Reserve the shoots showing the most compact bunches, rubbing the others off, yet retaining growth from each spur, or at 18 inches distance along both sides of the cane or rod, and if alternating all the better. Stop two joints beyond the show for fruit, but rather than crowd the foliage stop to one joint beyond the bunch. Tie the shoots down carefully and gradually, pinch the laterals at the first leaf, and to one afterwards as made. Old Vines do not bear freely on spurs in some cases, being weak. It is best in such instances to lay in shoots

from the base and along the rods at intervals of about 3 feet, which will increase the root action, the Vines attaining increased vigour, and longer pruning will usually afford better crops of Grapes; indeed, old Vines with fresh canes bear excellently. Apply a dressing of artificial manure to the border, and point in lightly. In the case of inside borders, which are wholly unnecessary and a great mistake as regards unheated houses, afford proper supplies of water or liquid manure. When dry a thorough soaking and a light mulch of rather lumpy sweet manure will, by keeping the surface moist, encourage active roots, and when these are present near the surface the facilities for feeding are greater, whilst the Vines are usually healthier.

PLANT HOUSES.

Epacris.—Plants that flowered early may be repotted if they need more root room. Drain the pots carefully, and the soil must consist of good peat and sand. Do not disturb the old roots further than is necessary in removing the drainage. In potting press the soil firm, and be careful not to bury the collar of the plant lower than usual. If the plants have been carefully hardened they may be placed at once in cold frames. For the first ten days or a fortnight keep the frames closed, and dew the plants with the syringe once or twice on fine days. Close the frame early in the afternoon. The plants must be watered carefully for some time after they are repotted. Later plants may be kept close, and syringed freely until they start into growth. A close moist atmosphere is beneficial at first, but as soon as they are well started air must be gradually admitted.

Erica hyemalis.—Plants that have commenced active growth may be placed in cold frames. Be careful not to crowd them, or the lower foliage will turn brown and eventually fall. If the plants need repotting do it at once. Peat and sand should be used for a compost, and pressed firmly round the balls, which must not be disturbed beyond the removal of the drainage. Keep the frames the same as advised for Epacris, and then admit air, carefully at first, and increase it until liberal ventilation can be given. A firm sturdy growth should be aimed at if the plants are to flower freely.

Erica gracilis.—This Heath is very liable to mildew if the plants are subjected to a close confined atmosphere. Directly any trace is observed dew them with the syringe and dust the affected parts with powdered sulphur. These plants may be potted the same as advised for E. hyemalis, but the smallest possible shift should be given. Do not attempt to keep these close after potting, but place them in frame and admit air abundantly.

Cytisus racemosus.—Plants that have flowered may be well pruned and placed in the greenhouse until they start again into growth. They may be syringed once or twice daily, and repotted if they need it. Young bushy specimens in small pots may be transferred into 5-inch pots, a suitable size for decorative purposes. Young plants that are still in store pots may be potted singly into 2-inch size. Grow these cool, and pinch the shoots from time to time as they need it. Small standards with stems 18 inches high are very effective; these can be run up until the desired length has been attained before pinching is practised. They do well in a compost of good loam, one-seventh of decayed manure, and sand. A little leaf soil may be used with advantage for those placed in their first pots.

THE BEE-KEEPER.

CROSS-BRED BEES.

THAT the introduction of foreign races of bees has done much to increase the yield of honey is, so far as my experience goes, an undoubted fact. In some cases crosses have not surpassed pure breeds of foreign varieties, but in the majority of instances they have. The principal points they inherit by crossing are greater vigour, hardiness, and they are more prolific, with a greater determination to gather honey. Crosses and pure-bred foreign varieties fly at a greater speed and greater distances in search of honey than the original natives. I must qualify the word search, for when bees search for honey there is not much, if any, to be had. If there are honey yielding flowers three miles distant from newly placed hives, the bees will, after they have risen in the air and made their circling flights, go directly to the honey field, whether it is with or against the wind, so that, strictly speaking, there is no searching.

As to what sense prompts the bee to this accurate flight, without any guide known to man, I have given my opinion before, and do not propose now to enter into details. If honey is partially concealed, bees do fly as if searching; but it is quite different with a field of natural flowers. There is a small two-winged black fly, which I see in large numbers during the summer months in my garden. At times they cover the gable of my bee house, and amongst the thousands one female only can be seen, which I have repeatedly caught, placed in a pillbox, taken it within doors for fifteen minutes, then putting my hand with it in my pocket went out. Immediately great numbers of males surrounded me. It appeared to me the attraction towards the female was governed

by the same laws which guide bees to honey sources. It is also worth mentioning that if I took her after mating and exposed her not a male came near.

Purchasing foreign queens is a judicious action on the part of bee-keepers. The 1st of August is a good time to begin queen rearing from imported queens, selecting a hive having its drones preserved after removing the queen, and in eight days after destroying all queen cells. It will now be in the best condition to introduce frames of eggs and larvæ from the hive of imported queen. Ten days after divide into nuclei, giving each a sealed queen cell, and if these are numerous and many wanted, frames from other hives with their bees adhering may be taken to strengthen them. If pure-bred bees are wanted, drones of the same breed as the imported queen should be taken with young queens to an isolated place from four to seven miles distant from other drones, and a large percentage, if not all of them, will be purely mated.

The above is the first step to insure large yields of honey. The second one is to adopt much larger hives than are in general use, and those of a narrow type. In a future article I will give objections to small and oblong hives.—A LANARKSHIRE BEE-KEEPER.

THE PRODUCTION OF HONEY.

THIS being the aim of the majority of bee-keepers, no doubt a few notes on the subject may be interesting at this season, as the time is fast approaching when the matter must be taken seriously in hand; in fact, it has already been done in forward districts, as it takes about six weeks to build a stock up to its full strength to obtain full benefit from the honey flow.

Judging, however, from my own experience the majority of stocks are this year in prime condition, and will need very little assistance. In the southern parts of the country, where fruit trees are extensively grown, bee-keepers will have an advantage over those not so favourably situated in the midland and northern counties. It is surprising the amount of honey a few strong colonies will store from the fruit tree blossoms during a spell of warm weather, such as is often experienced in the month of May. But it is only in favoured districts where this is possible, though I have known it to be the only source from which a surplus could be obtained.

The Hawthorn is nearly a month earlier in the Midlands than in some former years. I gathered some fully expanded flowers from a Hawthorn tree growing in a sheltered position on the 28th ult., which shows the forwardness of vegetation as compared with a late season, not having previously seen it in bloom at so early a date so far north before. The trees are thickly studded with bloom buds. Bees work freely on the Hawthorn, and it will this season doubtless be of great assistance to those who depend chiefly on the fruit tree blossoms and Hawthorn for a surplus.

WHEN TO SUPER?

The above is a query very frequently asked but difficult to answer, unless the whole surrounding of the querist is known. From what source is the chief honey supply obtained? The probable date? And what are the conditions of the stocks? These are necessary questions to answer before a definite reply can be given, as success or failure will largely depend on the strength of the various stocks at the time of the honey flow. I have more than once stated the fact, and would again emphasise it, that to obtain full benefit from the honey-producing flowers, all stocks intended for honey production should be overflowing with bees, bearing in mind that the greater the number of bees the more honey will there be proportionately stored.

If half a dozen stocks are standing side by side, and are of but moderate strength, they will probably only collect sufficient supplies for their daily requirements. But reduce the number of colonies, and make two or three stocks strong by uniting the bees from the other hives, and a surplus will be stored. All the bees need not be taken from those hives manipulated, but sufficient may be left with the queen and a frame or two of brood to produce a strong stock for wintering. A frame of foundation should be given to them every few days, or as often as necessary; but it is worse than useless to give extra frames of foundation unless there are sufficient bees to cover them.

But with extra strong colonies some bee-keepers may be afraid of being troubled with the swarming mania. I seldom have any difficulty in that respect, but should any reader have a doubt in the matter or have an excess of swarms I will endeavour to assist him, as I know of nothing more annoying than to have the bees swarm, and if returned to their hive, will probably swarm again on the first bright day.

For obtaining a surplus from fruit tree blossoms I prefer sections, as honey sells readily in the comb early in the season, and even if not required for sale it is most serviceable in that form.

Fruit tree honey is not so good for bottling as the honey obtained later in the season—notably that from the white Clover, which I find is preferred to any other. More harm than good is caused by placing supers in any form on hives before they are well crowded with bees, as these in Nature always store their honey above their brood, so supers are placed above the brood nest, and unless there are sufficient bees to attend to the work of the hive as well as the supers they will neglect the latter, consequently there will be a great loss of heat, although the super may be covered (as they always should be) with several thicknesses of warm material.

It is, however, possible to so manage the bees that they will store a surplus in supers during a short honey flow without adding more bees. This is done by simply taking out all the frames from the parent stock that are not covered with bees, and leave no brood in them, crowding the bees on to eight or ten frames, more or less, as the case may be, and drawing the division board close up to the remaining frames. Then place a crate of sections filled with full sheets of foundation, or, better still, with fully drawn out combs, and if the weather is favourable they will at once commence to store a surplus. It is, however, only reasonable to suppose that a much less quantity will be obtained than if the hive had its full number of frames all crowded with bees. I do not recommend this plan, only in exceptional cases, such as the early fruit tree blossoms, or similar instances. I will defer my notes on working for extracted honey to a future date.—AN ENGLISH BEE-KEEPER.

TRADE CATALOGUES RECEIVED.

W. Welch, Rush Green, Romford.—*Seeds, Chrysanthemums, and Plants.*

Young & Dobinson, Stevenage.—*Chrysanthemums.*



•• All correspondence should be directed either to "THE EDITOR" or to "THE PUBLISHER." Letters addressed to Dr. Hogg or members of the staff often remain unopened unavoidably. We request that no one will write privately to any of our correspondents, as doing so subjects them to unjustifiable trouble and expense.

Correspondents should not mix up on the same sheet questions relating to Gardening and those on Bee subjects, and should never send more than two or three questions at once. All articles intended for insertion should be written on one side of the paper only. We cannot reply to questions through the post, and we do not undertake to return rejected communications.

Preserving Bottles (O. R.).—The address you need is Messrs. G. V. De Luca Hill & Co., Long Lane, Aldersgate Street, London.

Calvary Clover (An Old Subscriber).—The botanical name of this plant is *Medicago echinus*. It is an annual; sow seeds in a warm position out of doors without delay.

British Ferns (J. S.).—There are upwards of 200 genera of British Ferns, and the number of species must reach some thousands. We are not aware that a census has ever been taken.

Violets (G. S.).—We will endeavour to comply with your suggestion, and shall be glad to see the new *Violas* at the same time as the notes pertaining thereto. Some of our *Viola*-loving correspondents think there is a disposition on the part of raisers to name and perpetuate too many new forms, which they cannot find it in their hearts to throw away. You must not take this as applying to yourself more than to others who are seeking to improve these charming hardy flowers.

Apple Blossoms Destroyed by Sparrows (P. C. A.).—The flower trusses were not injured in any way, the anthers being perfect on the stamens and the pistil intact. We mention this as sparrows are said to attack blossoms and flowers for the staminate and pistillate organs, but we have invariably found that when the birds visit the blossoms of the Apple it is with the object of getting at the Apple blossom weevil grub inside the flowers, extracting the aphides that frequently cluster therein, and oftentimes for the small caterpillars that roll and hide in the tender leaves, whence they come out at night to feed on the blossom and young fruit. The Pears in your case were not pecked, but eaten by some creature with jaws, and those belonged to the caterpillars we found rolled up, or rather inside the rolled-up leaves which accompanied the specimen. These we have watched both sparrows and chaffinches capture by disturbing them. Of course, the birds may be the delinquents, but we can only be guided by the evidence before us, and that was clearly against the caterpillars ensconced in the rolled-up Pear leaves, those only being the cause of the eaten Pears.

Dendrobiums (Juno).—All the flowers sent are *Dendrobium thysiflorum*. *D. Farmeri* is quite a different species, the lip of which is more downy, and the sepals and petals usually lightly suffused with rose; the lip has also a fringe more or less deep, and this you will see is absent in all your plants. There is nothing in any of the flowers sent to render a varietal name necessary, although one or two appear to be fairly good forms. In order to give an opinion on a species of this kind, the whole raceme should be sent, carefully packed; it is impossible to judge by a few flowers sent loosely, the character of the variety not being seen.

Tomato Culture under Glass (Glass).—It is quite possible to grow Tomatoes successfully in an unheated greenhouse, facing south, during an average summer. The start ought to be made at once. Avoid overcrowding. Many articles on Tomatoes under glass have appeared in these columns, and we could mention large numbers of issues containing them. You will do better to look out for future articles, and in the meantime to procure "The Tomato; its Culture and Uses," by W. Iggulden, sent post free from this office for 1s 2d. It is the best treatise on the subject, and will give you all the information needed on Tomato culture generally.

Peach and Nectarine Leaves Injured (E. C. L.).—The leaves are attacked by the Pear-leaf curl or blister fungus (*Exoascus deformans*), which causes them to become distorted, swollen, and practically useless to the trees, hence the most desirable remedy is to remove the worst infested leaves and deformed young growths by degrees, so as not to denude them of too much foliage and growth at once, then as the weather gets warmer new growths will be made of healthy character, and perfectly free from the malady. The best preventive is efficient protection for the blossoms and tender foliage in the early stages, such as that afforded by projecting copings and a canvas screen in front, so contrived as to be readily let down before night, and easily drawn up in the morning after the frost has departed. If a fixed protection is used it must be of an open nature, such as doubled herring nets, affixed clear of the blossoms and growths. Burn the leaves and growths removed, as the spores may spread to trees of a different kind, on which they produce the tufted growths, called witch-knots.

Apple and Pear Blossoms Injured (R. C. A.).—The Apple and Pear blossoms have the petals and calyxes more or less eaten by the caterpillars found in the rolled-up leaves. There is no evidence of the Apple blossom weevil larva having been at work—indeed, the stamens of the flowers are intact and the anthers not interfered with, it being the fructifying organs that the grubs of the weevil feed upon, and so cause the destruction of the blossom and fruit. The caterpillar is that of the brown cloak moth (*Spilonota aquana*), which feeds on young growths, including the flowers and young fruits of various trees, especially the Apple and Pear, but is frequently found on Roses and other rosaceous plants. It is a very active creature, moving either backwards or forwards with the greatest facility, and when disturbed lets itself down to the ground by means of a silken thread, and so escapes destruction. In the case of small trees the best remedy is squeezing the rolled-up leaves between the thumb and finger. When this cannot be practised the trees should be syringed with an insecticide, such as soluble petroleum, quassia extract, Fir tree oil, Lemon oil, and other advertised preparations.

Soil for Figs (I. C. R.).—Almost any well-drained soil will suit Fig trees, provided that, with its porosity, it also possesses that kind of mechanical texture which, whilst it readily transmits moisture, will also retain sufficient to withstand a hot and dry period in the middle of summer. It is well, however, to lean towards an open porous character; for if any defect arises through extreme seasons of drought in consequence of the soil being light, a remedy of a very simple character is always at hand in the shape of a good top-dressing and a bucket or two of water. When the native soil of a garden is too clayey, thorough drainage and the introduction of a liberal amount of sand, lime rubbish, and ashes, with a slight amount of vegetable matter, will in general suffice to make it fit for Fig trees. If the garden soil is too light and porous some adhesive loam may be added, or indeed, anything which may happen to be at hand which is retentive of moisture in its own nature. One thing is requisite—the bed of soil should by no means be deep. We would never allow above half a yard in depth, unless in situations peculiarly favourable to the culture of this fruit.

The Monkey Nut (Telmah).—The Ground Nut or Earth Nut which is met with in the fruiterers' shops in this country, is the fruit of *Arachis hypogæa*, a native of South America, but cultivated in all the Southern States of North America, in the South of Europe, in Africa, and in Asia. It is an annual plant, growing to the height of 2 feet, with a trailing, straggling, habit. In South Carolina this is cultivated to a great extent, and there the inhabitants roast the "nuts," as they are called, and make use of them as chocolate. When fresh the seeds or "nuts" have a sweet taste, not unlike that of Nuts or Almonds. The natives make them their principal food, and they form an article of great consumption among the negroes. An extremely sweet, fixed oil is extracted from these seeds, which, according to some, is quite equal to olive oil, and does not become rancid, but on the contrary improves with age. There is something remarkably interesting in the economy of this plant. After the flowers fall off the young pods are forced into the ground by a natural motion of the stalks; and there they are buried, and are only to be obtained by digging 3 or 4 inches under the soil, hence their name.

Grubs in Vine Border (Western).—The grubs are the common wireworm—larvæ of the skipjack, spring, or click beetle (*Elatér* or *Agriotes lineatus*). If you dress the border with rape-dust at the rate of 7 lbs. per rod, and let the wireworm feed on it for two or three days, and then water the border with a solution of kainit, 1 oz. to a gallon of water, and use 3 gallons per square yard, you may afterwards plant it with anything you like, especially if before doing so you use 3 ozs. of bone superphosphate per square yard. This will give you an excellent dressing for a Vine border—namely, the gradually yielded ammonia of the rape-dust, or that of the bodies of the wireworm, potash, and magnesia of the kainit, and the phosphate of lime of the superphosphate. If you want otherwise to get rid of the pests place some pieces of Carrot, or "set" Potatoes about 9 inches apart all over the border, and about 2 inches deep, examining them daily, this being facilitated by a stick thrust into each bait. They will certainly otherwise feed on the rootlets of the Vines and seriously injure them.

Names of Plants.—We only undertake to name species of plants, not varieties that have originated from seeds and termed florists' flowers. Flowering specimens are necessary of flowering plants, and Fern fronds should bear spores. Specimens should arrive in a fresh state in firm boxes. Slightly damp moss, soft green grass, or leaves form the best packing, dry wool the worst. Not more than six specimens can be named at once, and the numbers should be visible without untying the ligatures, it being often difficult to separate them when the paper is damp. (*J. F.*)—1, *Pulmonaria angustifolia*; 2, *Arabis alba*; 3, *Iberis sempervirens*. (*R. M.*)—1, *Begonia fuchsoides*; 2, *Acacia Riceana*; 3, specimens much too withered for identification. (*Manchester*).—1, *Eupatorium odoratissimum*; 2, *Thuja aurea*. (*G. F. R.*)—The *Cypripedium* was *Boxalli*, and the *Cattleya* a form of *speciosa*. (*Rockingham*).—There is nothing special in the *Odontoglossum*, though the form is certainly a good one. (*D. H. M.*)—We have often seen *Maréchal Niel* Roses such as you have sent us; there is nothing special in it.

COVENT GARDEN MARKET.—MAY 6TH.

A VERY general fall in all kinds of goods, supply being heavier, and no improvement in demand.

FRUIT.

	s. d.	s. d.		s. d.	s. d.
Apples, per bushel	2 0	to 4 6	Grapes, per lb.	1 6	to 3 6
" Nova Scotia, barrel	13 0	20 0	Lemons, case	11 0	14 0
" Tasmanians, per case	11 0	12 0	St. Michael Pines, each ..	2 0	6 0
			Strawberries, per lb. ..	2 0	4 0

VEGETABLES.

	s. d.	s. d.		s. d.	s. d.
Asparagus, per 100	2 0	to 3 6	Mustard and Cress, punnet	0 2	to 0 0
Beans, per lb.	0 6	1 0	Onions, bushel	3 6	4 0
Beet, Red, dozen	1 0	0 0	Parsley, dozen bunches ..	2 0	3 0
Carrots, bunch	0 3	0 4	Parsnips, dozen	1 0	0 0
Cauliflowers, dozen	2 0	3 0	Potatoes, per cwt.	2 0	4 0
Celery, bundle	1 0	0 0	Salsafy, bundle	1 0	1 6
Coleworts, dozen bunches	2 0	4 0	Seakale, per basket	0 0	0 0
Cucumbers, dozen	1 6	3 0	Scorzonera, bundle	1 6	0 0
Endive, dozen	1 2	1 6	Shallots, per lb.	0 3	0 0
Herbs, bunch	0 2	0 0	Spinach, pad	0 0	4 6
Leeks, bunch	0 2	0 0	Sprouts, half siv.	0 0	0 0
Lettuce, dozen	1 3	0 0	Tomatoes, per lb.	0 6	1 3
Mushrooms, per lb.	0 6	0 8	Turnips, bunch	0 3	0 0

PLANTS IN POTS.

Arbor Vitæ (various) doz.	6 0	to 36 0	Ferns (small) per hundred	4 0	to 6 0
Arum Lilies, per dozen ..	6 0	9 0	Ficus elastica, each	1 0	7 0
Aspidistra, dozen	18 0	36 0	Foliage plants, var. each	1 0	5 0
Aspidistra, specimen plant	5 0	10 6	Genista, per dozen	6 0	10 0
Azalea, per dozen	12 0	24 0	Hydrangea, various, doz. ..	9 0	24 0
Cineraria, dozen pots ..	6 0	9 0	Lilium Harrissi, per dozen	15 0	24 0
Cyclamen, dozen pots ..	8 0	15 0	Lycopodiums, dozen	3 0	4 0
Dielytra, per dozen	9 0	12 0	Marguerite Daisy, dozen ..	6 0	9 0
Dracæna, various, dozen ..	12 0	30 0	Mignonette, dozen pots ..	6 0	9 0
Dracæna viridis, dozen ..	9 0	18 0	Myrtles, dozen	6 0	9 0
Ericas, various, per dozen ..	9 0	24 0	Palms, in var. each	1 0	15 0
Eunymus, var., dozen	6 0	18 0	" (specimens)	21 0	33 0
Evergreens, in var., dozen	6 0	24 0	Spiræas, doz.	6 0	9 0
Ferns in variety, dozen ..	4 0	18 0			

AVERAGE WHOLESALE PRICES.—OUT

Anemone (French), dozen bunches	2 0	to 4 0	Pelargoniums, 12 bunches	6 0	to 9 0
Arum Lilies, 12 blooms ..	2 0	4 0	Polyanthus, dozen bunches	1 6	2 6
Asparagus Fern, per bunch	2 0	4 0	Primroses, dozen bunches	0 6	0 9
Azalea, dozen sprays	0 4	0 6	Primula (double), dozen sprays	0 6	1 0
Bouvardias, bunch	0 6	1 0	Roses (indoor), dozen ..	1 0	2 0
Camellias, dozen blooms ..	0 9	1 6	" Tea, white, dozen	1 6	2 6
Carnations, 12 blooms ..	1 0	3 0	" Yellow, dozen (Niels)	2 0	4 0
Cyclamen, dozen blooms ..	0 3	0 6	" Red, dozen blooms ..	2 0	4 0
Daffodils, single, doz. bun.	1 6	6 0	" Safrano (English), dozen	1 6	2 0
Eucharis, dozen	1 6	3 0	" Pink, per dozen	3 0	6 0
Gardenias, dozen	2 0	3 0	Smilax, per bunch	4 0	6 0
Geranium, scarlet, doz. bunches	4 0	6 0	Spiræa, dozen bunches ..	3 0	5 0
Iris (English) doz. bunches	4 0	6 0	Stephanotis, dozen sprays	3 0	4 0
Lilac (French) per bunch	3 0	4 0	Tuberose, 12 blooms	0 6	1 0
" (English) doz. bchs.	3 0	6 0	Tulips, dozen bunches ..	2 0	6 0
Lilium longiflorum, twelve blooms	3 0	5 0	Violets Parme (French), per bunch	3 0	4 0
Lily of the Valley, 12 sprays	0 6	1 0	" Ozar (French), per bunch	2 0	3 0
Maidenhair Fern, doz. bchs.	4 0	8 0	" Victoria (French), 12 bunches ..	1 0	1 6
Marguerites, 12 bunches ..	2 0	3 0	" English, 12 bunches	0 9	1 0
Myosotis or Forget-me-not, dozen bunches	2 0	4 0	Wallflowers, dozen bunches	2 0	3 0
Narcissi, var., doz. bunches	0 9	2 0			
Orchids, various, doz. blms.	1 6	12 0			



MANURES FOR TURNIPS.

MANY are the differences of opinion as to the value of the different manures used on the farm, and as these opinions are generally supported by the results of practice, they would often appear to be quite hopelessly contradictory.

When, however, the great differences of soil, condition, cleanliness, drainage, and climate, are fully taken into account the apparent divergence is found not so irreconcilable. The best plan is to follow the general custom of the neighbourhood, and then to improve on it if possible.

Many fine mixtures with high-sounding names are in the market, but it should be remembered that the real value of these mixtures lies in the presence of certain constituents, and that these constituents are almost always to be obtained much cheaper in their original unmixed condition.

Take an example. A manure guaranteed to contain 22 per cent. phosphates and 3 per cent. ammonia, at £6 10s. per ton, less 5s discount for cash, £6 3s 6d. Here we have 22 per cent. phosphate at 1s. 6d. = £1 13s., 0.03 ammonia at 7s. 6d. = £1 2s. 6d., value £2 15s. 6d., leaving £3 8s 6d., or 122½ per cent, profit for mixing.

Phosphates are the main factor in Turnip growing. A sufficient supply of nitrogen must be present to grow the plant, but it will be the phosphate of lime that will swell the roots, and a good supply of this must be provided.

Superphosphate of lime at about 42s per ton is the cheapest Turnip tillage in the market if the Turnip crop only is considered, but it is the succeeding corn and Clover crops that are to be taken into account. A mixture of superphosphate and steamed bonemeal at £4 5s per ton would be better; the latter should contain about 60 per cent of phosphates and 1½ per cent. of ammonia.

Two hundredweight of bonemeal and the same quantity of superphosphate, costing about 12s. 9d. per acre, and containing in mixture about 43 per cent. phosphate and ¾ per cent. ammonia, will be an excellent and cheap dressing on land which is fairly rich in nitrogen; but where the land is poor, or for Swedes without manure, the addition of ½ cwt. of sulphate of ammonia per acre, costing about 4s. 6d., will make a manure as good as can be wished for any soil.

Where is the potash? someone may say. We have tried both kainit and muriate of potash on medium land, and have never seen any benefit result to the Turnip crop, though we have seen an after effect on Clover and Potatoes.

Although good Swedes may be grown without farmyard manure on good land, a really heavy crop (if it is to be a sound one) must have "muck" for the foundation. We have tried heavy dressings of artificial against it, and have found that although the former produced as heavy a weight per acre or even heavier, the roots were certainly not so sound, and very inferior as regards keeping qualities.

If the heaviest possible weight is desired, as is often the case where only a small area can be devoted to the root crop, and yard manure is not available, we should be inclined to use 4 cwts. superphosphate, 2 ditto bonemeal, and 1 ditto nitrate of soda, applied before the seed is drilled, with an additional cwt of nitrate after the plants are thinned out; this may be sown broadcast and horse-hoed.

Fish guano containing 8 to 10 per cent ammonia and 20 per cent. phosphates may be bought for about £5 10s. or £6. It also contains a little potash, and is more suitable for Potatoes than Turnips, as it is too rich in nitrogen and poor phosphoric acid for the latter. It would do for Mangolds, but is rather too slow in its action for modern practice; we cannot afford to leave much for the future in these days.

Pigeon and fowl manure are most valuable for both Swedes and Mangolds; it is a good plan to mix them with mineral phosphate a month or two before using, and turn the mixture once or twice in the interval. Where a good dressing of this mixture goes little else will be required. The farmer of forty years ago used to swear by bones, but though the half-inch bone as an object of worship is out of date, still a devotee may occasionally be found. Bone is better applied as dust or dissolved, and should never be put on carr land unless dissolved. We can testify to well-preserved half-inch bones being turned up on carr land of our own acquaintance, on which none has been used for thirty five years. Peat earth, as we know, preserves fallen timber for centuries, and it has the same effect on bone, dissolution being checked and rendered practically abortive as far as benefit to plant life is concerned.

WORK ON THE HOME FARM.

A home farm usually lies very handy to the farm premises, often in a ring fence, and owners of land, although themselves farming, and therefore supposed to have full knowledge of the difficulties their tenants have to contend with, have often little idea of the expense of farming fields lying a mile or a mile and a half away.

Fortunate is the occupier of a compact farm of good land with a sufficient proportion of useful grass. On some estates, where land varies considerably in value, in order to effect an equal distribution of the best and worst soils between the different farms, fields have been allotted to farmsteads a mile or two away. The extra labour this entails is very great, and the laying out of capital on more buildings (if the money could be found) would only be like robbing Peter to pay Paul.

We know farms of which more than half lies a mile away from home. When working these fields it is found impracticable to make more than one yoke per day either winter or summer. As much work can be done by working from 6 A.M. to 2 P.M., without a break, as by working from six to twelve and two to six, the usual hours, and there will generally be found a few odds and ends to fill up the men's time after dinner, while the horses will be resting in the stable or out at grass.

Of course in midwinter the one yoke system prevails everywhere, as it is too dark to work after 4 P.M., and the advantage is obvious; but the men are never very ready to take to the double yoke, and a change has generally to be insisted on before they will adopt it. If the horses leave the stable at 6 A.M. and return at 2.30 there will be an abstinence from food of eight and a half hours, and supposing the journey to the field to occupy thirty minutes each way, seven and a half hours continuous work.

This may not hurt a matured animal, but we do not think one under four years old should be subjected to such treatment. We are now working a pair of two-year-olds lately broken; we send one out at 6 A.M., the other remains at home till 10 A.M., when he is taken out and the first one brought home.

Young horses should never go a long yoke, many a one has been killed by injudicious feeding after a long fast and an exhaustive spell of hard pulling. As we have said before, we know farmers who make one yoke the year round; but having well tried both plans, and having the animal's welfare as well as the work in mind, we should unyoke at noon if possible.

We are about putting in a few acres of common Turnips adjoining the Cabbage plot to ripen by mid-September. They will be handy to educate the lambs with when the Cabbages are running short, and there is no easier way of getting lambs on Turnips.

Cabbages this year are much inclined to run to seed. Another result of last September's heat we suppose.

The land has dried rapidly lately, and is showing a decided scarcity of fine tilth, strong soils will be hopeless for roots without a heavy downfall.

METEOROLOGICAL OBSERVATIONS.

OAMDEN SQUARE, LONDON.

Lat. 51° 32' 40" N.; Long. 0° 8' 0" W.; Altitude 111 feet.

DATE.	9 A.M.					IN THE DAY.				Rain.
	Barometer at 32°, and Sea Level.	Hygrometer.		Direc- tion of Wind.	Temp. of soil at 1 foot.	Shade Tem- perature.		Radiation Temperature		
		Dry.	Wet.			Max.	Min.	In Sun.	On Grass.	
1896 April and May.	Inchs.	deg.	deg.		deg.	deg.	deg.	deg.	Inchs.	
Sunday .. 26	30.067	58.9	53.8	N.W.	49.8	68.4	51.4	108.6	45.2	—
Monday .. 27	30.109	54.7	52.2	W.	50.9	67.7	45.3	108.9	36.3	—
Tuesday .. 28	29.911	54.4	47.0	W.	51.8	62.9	50.2	110.9	43.7	—
Wednesday 29	29.730	52.6	45.0	W.	52.1	60.2	43.8	109.8	36.3	0.076
Thursday .. 30	29.854	47.7	42.9	N.	50.9	59.7	37.8	107.1	24.7	—
Friday .. 1	30.193	43.1	40.4	N.	50.3	55.8	36.4	108.7	28.3	—
Saturday .. 2	30.360	48.7	42.4	N.	50.0	53.6	36.2	97.2	25.6	—
	30.032	51.9	46.2		50.8	61.2	43.0	107.3	34.9	0.076

26th.—Generally cloudy in morning; bright sun all afternoon and clear night. Lunar halo in evening.

27th.—Overcast morning; occasional sunshine in afternoon.

28th.—Bright sunshine almost all day and fresh breeze.

29th.—Generally sunny, but spots of rain at 11 A.M., and showers at 0. 0 P.M. and [3.30 P.M.]

30th.—Bright sunshine in morning; cloudy at times in afternoon.

1st.—Brilliant early; generally cloudy day; spots of rain at 0.30 P.M.

2nd.—Overcast morning; occasional sunshine in afternoon.

Yet another fine week of average temperature.—G. J. SYMONS.

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**Journal of Horticulture.**

THURSDAY, MAY 14, 1896.

MULCHING AND TOP-DRESSING.

PROFESSIONAL gardeners understand mulching to be a distinct operation from top-dressing, but amateurs are apt to consider them analogous. We mulch with a view to prevent the too rapid loss of moisture from the soil by evaporation, and sometimes also to prevent the loss of heat during cold weather; but we top-dress with the aim of, to a certain extent, conserving moisture, but primarily with the idea of providing an additional and tempting root-run, or of keeping the roots active near the surface. Excellent results attend both operations, always provided they are intelligently carried out.

All things considered partially decayed strawy litter from horse stables is the best kind of mulching material that can be used. This serves to keep in the moisture without unduly excluding warmth and air. In a half decayed state cow manure is recommended for particularly hot and dry positions, or for light non-retentive soils. Spent tanners' bark is an excellent substitute for strawy litter as a mulch for Strawberries. Where it is used slugs are never troublesome and millipedes do not abound, nor have I ever found that it affected the flavour of the fruit resting on it during the time it was ripening.

Leaves when well advanced in decay are tempting to roots, so that they answer the double purpose of conserving moisture and fostering surface root action, or more so than in the case of the other materials named. Spent hops only answer well with a little soil laid on them. When none of these mulching materials has been available in sufficiently large quantities, I have repeatedly followed a soaking rain or heavy watering with a surface hoeing, and then mulched with fine dry soil, good results accruing. This form of mulching is most to be recommended for Onion, Carrot, Turnip, and other root crops. It is easily applied, and while it remains in a dry state decidedly non-conductive. Where soils are given to cracking during dry hot weather a timely free use of dry soil as a mulch serves to prevent this, and will make all the difference between a heavy and comparatively light crop. Mulchings are needed for fruit tree borders, both under glass and in the open, far more than, judging from appearances,

those in charge of them seem to think. Even if water is abundant and can be easily applied, it is yet more to the purpose to mulch—not before the sun warms the soil, but before it gains great power and abstracts much moisture from it. Mulching prevents the necessity of many drenchings, which lower the temperature of the soil and wash the plant foods downwards, surface roots not then being plentiful as a rule.

Mulching material properly utilised is a great saving in labour, but it must not be expected that it will wholly obviate the necessity for using water. In my case mulched borders instead of being watered once a week, and oftener where Tomatoes are growing, need only be watered every ten days or fortnight, according to circumstances, and the trifling cost of mulching is saved several times over during the season in labour and water rates. Nor is this the only advantage. The mulched plants, or those kept constantly moist at the roots, are the least liable to succumb to insect attacks or diseases generally and invariably produce much the heavier crops. This may appear to be a strong assertion, but my readers may rest well assured that I should not buy twenty loads of strawy manure during the month of May solely for mulching purposes if I were not well convinced that by so doing a considerable gain would be effected.

Freely mulched inside borders do not suffer so much from being trampled on as do those left bare, this remark applying in a lesser degree to outside borders. All wall trees, Peaches and Nectarines in particular, are greatly benefited by early and heavy mulchings, applied not merely about the stems but to a distance of from 4 feet to 6 feet away. Mulchings are also most desirable in the case of newly planted trees and bushes, as well as those partially or wholly lifted last season, and those on surface-rooting stocks generally, these requiring abundance of moisture and food to support them in their endeavours to annually produce extra heavy crops.

Top-dressings more often than not take the form of a rich mixture, consisting, say, of equal parts of fresh loam and good solid manure, with burn bake, old mortar rubbish, and bonemeal added. Sometimes only loam and chemical manures are used at the rates advised by the vendors. All those advertised are good, and have given satisfactory results; rank stable manure, and in some few cases strong ammoniacal chemical manures, applied to borders in a warm house have been known to ruin the foliage of Grape Vines. The mischief was done during the time of closing and syringing in the afternoon of a bright day and the next morning; a surfacing of kiln dust fresh from a malting also once worked much damage in a vinery. Mix these strong ammonia-charged manures with fresh soil prior to using, and danger from them will be reduced to a minimum. Damping down with guano water in the afternoon, an ounce to a gallon, does no harm, but good.

Top-dressings of any kind should never be applied to either dry or hard-capped borders. First loosen the surface with forks to the extent of baring the topmost roots, and if the old loosened soil can be wholly dispensed with, replacing this with the fresh compost, so much the better. Not, however, till the borders have been well moistened, if need be, ought the top-dressing to be given, and if the latter can be still further supplemented by a mulching of strawy manure or other suitable material there will be a greater likelihood of the roots being attracted to, and kept active in the top-dressing.

Mulchings and top dressings are not always attended with marked benefit to the crops favoured by one or both of these operations. This, in numerous instances, is owing to a neglect of other cultural details, more especially in the direction of omitting to apply water or liquid manure at the right time. The fresh soil on the surface may be moist enough, but not so that full of hungry roots underneath. It is the latter that ought to be tested frequently and watered when approaching dryness, paying little or no heed to the top-dressing. If we are guided by the state of the top-dressing, then the chances are we shall be misled and harm

result. Dry top-dressings again are of no service beyond acting as a mulch, and that is another reason why they ought, particularly where exposed to sunshine and drying winds, to be accompanied by a mulching.—W. IGGULDEN.

HARDY FLOWER NOTES.

LOOKING, as is my wont, through the bewildering array of beauty in the garden for something of which to speak in detail I came on the double Daisies, which with button-like flowers are so beautiful in this month of flowers. Their sisters of the fields and of many places besides need no champion and no pen to tell of their beauty. From Chaucer onward the poets have told of their loveliness, and have used to the full the gifts of their genius in singing their praises. The "floure white and redde," best loved by Chaucer; the "wee, modest, crimson-tipped flower," of Burns; or the "queen in crown of rubies drest" of Wordsworth, needs not our praise; and as in any case the garden flowers are more within my province, I devote a few lines to those Daisies which for long years have been coveted and admired in the gardens of those of high or of low degree.

Like many other flowers, the double Daisies have too often been left in the cold shades of neglect, and though more sought after, are not without need of being more brought before the notice of growers of hardy flowers. I have been gathering together a small collection, and find them very interesting and so beautiful as to be very attractive, formal though some think their quilled or flat-petalled flowers.

The Aucuba-leaved Daisy, *Bellis perennis aucubæfolia*, is very much admired by many on account of its spotted foliage, whence it appropriately enough receives its varietal name. The best known variety is the crimson one, but the white flowered one is also not infrequently met with. There is, however, also a pretty pink or blush coloured one, which has its flowers quilled like those of the others. These Aucuba-leaved Daisies are rather more difficult to keep than the others, and require more careful looking after. The Hen and Chicken Daisies or Childing Daisies, as the curious proliferous varieties are called, are very interesting, and usually attract a good deal of attention. The small flowers, which cluster round the larger central one, are really only an assumption by the bracts of the floral form, and in some gardens Hen and Chicken Daisies revert to the ordinary form of the double Daisy, and show no "chickens." Sometimes, too, the "chickens" are not produced until the "hen" has withered away, and thus the interest of the curious flower is considerably lessened. How many kinds there are of Hen and Chickens Daisies I do not know, and I can only recollect of having met with four or five, none of which was white. There is a double Daisy mentioned in some of the old gardening books as the Cockscomb Daisy, of which Miller names two varieties, the red and the white. The flowers appear to have been in the form of the Cockscomb, and I should be grateful to anyone who can put me in the way of the Cockscomb Daisies. Some of the double Daisies assume a form slightly resembling the Cockscomb before fully opening, but I do not suppose this is what is meant by the old gardeners.

I have already, I fear, said too much to permit me to say any more about the many white, pink, red, and blush Daisies, varying so much in size and in appearance. Some of the miniature forms, such as Dresden China, Blush Queen, and Blushing Bride, are very pretty, and among those I have is a very small deep red quilled one, of which I do not know the name. The raising of seedlings is rather disappointing in many cases. Last year I raised several from a packet of seed procured from Italy, and which was offered with quite a flourish of trumpets. I think, however, the results were less satisfactory than my previous attempts.

From these flowers, which are the products of the gardener's art, and are still too modest to be thought worthy of the attention of a large number of hardy flower growers, it is a long step to the Dodecatheons or American Cowslips. The first of these to flower has been the ordinary D. Meadia, which looks quite happy in a shady pocket at the base of a rockery where a large stone wards off the sun's rays. Very pretty is it, and with its varieties always receives notice on account of its reflexed petals, which Henry Phillips in his curious but useful book, "Flora Historica," says give the flower "the appearance of an half-expanded parasol, and which resemblance is considerably heightened by the long tapering shape of the parts of fructification and the golden colour of the anthers." Phillips also gives the name of Virginian Cowslip, and the French name as "Gyroselle de Virgine;" while still another name frequently used is that of "Shooting Star." The ordinary D. Meadia is of a rosy lilac colour, and its flowers are most attractive as they droop pleasingly towards the earth.

There is also a pretty white variety and several others, such as *lancifolium*, known also as *Jeffreyi* and *macrocarpum*, which, according to the "Kew Hand List," is synonymous with *giganteum*. I am not yet in possession of *D. Lemoinei*, which is said to be of garden origin, but I am glad to possess *D. Clevelandi*, which I hope some day to see in flower in my garden. It was kindly sent me by Mr. J. N. Gerard, and makes and loses its growth very early in the season. I am not quite sure that it will be a success in our climate, although I think it has pulled through two winters here. The *Dodecatheons* like a cool and rather shady position, and seem to approve of the light soil of my garden. They may be increased by division when they have begun to grow in early spring or by means of seed, which is, however, sometimes long in germinating. This is one of the plants which I should much like to see in its native home in North America. When I have enough of *D. Meadia* I mean to make a small colony of it by the margin of my little Water Lily pool, where I think it would look very beautiful indeed.

Although I have mentioned it before, I think it will not prove amiss to say a few words about *Iris lacustris*, another North American plant apparently rare in this country, although, according to a Canadian correspondent, it seems plentiful near the lakes. I have grown it for a few years, and although I have frequently given away pieces I counted to-day twenty open flowers on my plant. A charming little *Iris* it is, which grows only about a couple of inches high on a rockery facing almost south-west. It is said to grow in gravelly soil by the lakes, but I grow it in sandy peat and grit on a level terrace of the rockery. As I write the Tulips are in full glory, and very brilliant they are, by far the most shapely being those which were so long the care of the florist. The named Dutch varieties lack the refinement of what are justly known as the "English" Tulips; but they look well in the garden with their flamed and feathered flowers. I think the bizzarres look well in suitable positions among garden flowers.

It is no doubt rank heresy to the "Tulip fancier," but for garden decoration in suitable soils there is no need to lift the Tulips every year, and they may be allowed to remain for years. It is beyond my province to say more about the grand Tulips of which Mr. Bentley can speak with so much ability and knowledge, and I thus only say a little now in praise of a showy garden Tulip in full bloom as I write. This is *Buonoventura*, which comes a bright scarlet and gold, or rather gold with scarlet streaks, and passes off a creamy yellow with crimson on the outer segments, and bright yellow and crimson on the inner ones. The flower is pointed—a defect in some eyes—but looks very gay and attractive in the border.

Bright, too, but of a different character altogether, is the dwarf yellow-flowered composite *Doronicum scorpioides*, a little plant with comparatively large flowers, which appears to have been to some extent a puzzle to those who seek to grow their flowers under the most approved names. It is said to have been *Arnica Aronicum*, *Arnica scorpioides*, and *Aronicum scorpioides*, and now it has, it is to be hoped, found a permanent name, seeing that it appears in the pages of the "Kew Hand List of Herbaceous Plants" as *Doronicum scorpioides*. Bright are its large golden flowers, and pleasing its light green denticulated leaves. It is growing near the front of a border with a south aspect and in light soil. It is about 6 inches high, but in stronger soil grows considerably taller. It is said to have been introduced from South Europe in 1710. These are a few flowers out of many now in bloom, for May brings with it floral beauty unsurpassed.

The *Arabis*, which made sheets as of snow, has almost lost its bloom; but pure *Candytufts* and *Saxifrages*, almost numberless, vie with *Hutchinsia alpina* in supplying its place. The golden *Alyssum saxatile* is covered with its flowers, unassuming in themselves when taken singly, but in a mass of brightest effect. The *Aubrietias* are delightful in their varied shades of purple, lilac, and rose. The varieties of *Phlox subulata* delight those who see them with their sheets of little flowers, ranging through many shades. The Great White Trinity Flower or American Wood Lily, *Trillium grandiflorum*, flourishes in a little nook of the rock garden, where a peaty soil and moisture renders it happy and a source of pleasure to all who see it. The first of the Sun Roses have opened their fragile crinkled blossoms, and the fugacious *Poppyworts* are represented by *Stylophorum diphyllum* and *Meconopsis cambrica*, that pretty but amazingly prolific plant.

Spanish Squills please us too with their bells of blue or of white, and Lilies are preparing to enter on that annual tourney with the Rose, which is also fast hastening into bloom. Then there are Globe Flowers, Alpine Wallflowers, Violas, Barrenworts, Anemones, Irises, Hedge Mustards, Auriculas, Narcissi, Polyanthus, hardy Orchids, Lupins, Alliums, Stars of Bethlehem, *Houstonia*, Summer Snowflakes, and many more, from which we

shall be loth to part, even though we have the promise of other gems, which in later summer make the garden, as now, our happy resort and source of joy.—S. ARNOTT.

HORTICULTURAL HISTORY NOTES.

PIONEER GARDENERS IN NORTH LONDON.

COULD we resuscitate for a visit to London one of the citizens who lived there in the Middle Ages, and take him to localities with which he was then familiar, now so greatly changed, he would certainly be amazed at many things. One alteration he could not fail to notice, the dryness of the metropolis in our day as compared with his. He was once accustomed to see marshy meadows, occasionally resembling small lakes, not far from the City walls; indeed, through the heart of London, numerous winding brooks made their way to the Thames; streams, almost reaching to the proportions of rivers, were conspicuous in the suburbs, taking their rise at Clerkenwell, Hoxton, and Islington, or at the more distant Hampstead and Hackney. We can scarcely realise the satisfaction it gave the early London gardeners to secure ground near one or other of these rivulets. Dim as is our knowledge of the precise spot where worthy Master Gerard had his Holborn garden, we have reason to think he had the advantage of two streams, the "River of Wells" and the Old Bourne, while the conformation of the land gave him a choice of sunny or sheltered positions for his plants. An address of his to Lord Burleigh informs us that to the plants of "this noble island he added from foreign places all the varieties of plants and herbs he might any way obtain."

Some would indeed give Gerard the credit of having carried out the first botanic garden in Britain, but he had predecessors, though they worked in a smaller way. Bulleyn is one, for instance. None before him, it is evident, took so much trouble to procure exotics, by correspondence or the agency of travellers, and probably nobody had been so successful in their cultivation. Greenhouses he certainly had not, but he protected tender plants in winter by such appliances as were known to gardeners of the Tudor period. Anyhow, he was able to enumerate 1039 species in his catalogue dated 1596, and his friend De Lobel asserts that he had seen them all growing. His repute as a skilful gardener led to his receiving subsequently from Queen Anne, consort of James I., the free grant of an additional plot for experiment, situate on the bank of the Thames near Somerset House. It has been conjectured that the Potato was first cultivated in England by Gerard, because the frontispiece of his "Herbal" represents him as holding this plant, with its flower and fruit. Upon Snow Hill, adjacent to Gerard's ground, Johnson had a small physic garden, or garden of herbs used in cookery and medicine, about which we have few particulars. In passing I notice that no one can explain why the hill got this name, but it is also spelt in some old books "Snor" and "Sore."

Domesday Book records the existence of a vineyard at Holborn in the eleventh century, and long before Gerard's time a memorable garden occupied a large space there, attached to the palace of the Bishops of Ely. John de Hotham, a fourteenth century bishop, planted a kitchen and orchard; here too was a vineyard, of which the locality once had a reminder in Vine Street. Saffron was an article highly favoured by our ancestors, and Saffron Hill tells us of a part of the ground which was appropriated to this plant. Holinshed's record is that its fame for Strawberries was a well-known fact in the reign of Richard III., and in the reign of Elizabeth the garden was evidently renowned for its Roses. She compelled poor Bishop Cox to give up the estate to her Lord Chancellor Hatton, after whom Hatton Garden is named, and it was with difficulty the Bishop got permission to walk in the gardens, also to gather yearly twenty bushels of Roses. Farther along the same line of North London, evidently a favourite part, was the garden of Parkinson, granted to him by Charles I. in consideration of his many years' study of plants. This was somewhere about Long Acre, that name applying formerly to a large open space west of Drury Lane, and he had another plot in St. James's Fields, near the Palace. Doubtless his "Paradisus," the first edition of which appeared in 1629, displays largely the results obtained by him while working in these gardens. Like the Bishops of Ely, he shows a partiality for Roses. His book states that he had thirty sorts of Roses, differing "in form, colour, and smell;" amongst these he names three Musk Roses, which refutes an idea that this variety was not cultivated till a later period. A floral group that is depicted proves he was acquainted with the Cyclamen and the Sunflower. Tulips must have been one speciality, since he had the unusual number of 160 varieties, so he believed, in his garden; but he remarks that at that time the Gillyflower was more esteemed than any other.

Speaking of fruits, he alludes to the Nectarine as a new arrival,

and he is credited with the introduction of edible Rhubarb, having obtained plants through his friend, Matthew Lister. He received many "fair flowers" from two London merchants, Lete and Franqueville, and a Mr. Gwdyer brought him many British flowers he had never seen wild. We observe, in reference to a general belief of his day concerning the influence of the moon in horticulture, Parkinson declares that, after many experiments, he could not find evidence that our satellite had either a good or bad effect on plants.

Glancing back again at the more central region of old London, I note, that to some extent the popular idea of it as largely made up of close streets and alleys is a mistaken one. Within the City walls, even down to the time of the Stuarts, there were many large open spaces, in addition to the numerous burial grounds; for example, the halls of the companies had mostly their gardens attached, also scattered over the intervals between the chief streets were houses of citizens and nobles, many with gardens or enclosed spaces, then there were others belonging to the monasteries. Fitzstephen, of the twelfth century, says the citizens had some beautiful gardens, often planted with trees, and in the reign of Henry III. large mansions had sometimes an orchard. Evelyn mentions in his day the orchards about Barbican as being advantaged by the reduced consumption of coal, but these, possibly, lay outside the walls in that direction. From the change produced also on London trees and plants generally, by the temporary stoppage of this fuel during the Civil War, he argued in favour of wood fires only, as being best for horticulture, about this he wrote in his "Fumifugium." Owing to the frequent domestic troubles, the Londoners were chary about building houses for themselves beyond the City for fear of pillage.

Those, however, who were fond of gardening saw no objection to securing for themselves plots in the suburbs to the north, where they could cultivate plants on a larger scale than in the town, and along the City Road during the Middle Ages many citizens had ground which produced herbs, fruit, and vegetables. A list is extant of some holders, and it is curious to note amongst these citizens are numerous mercers and tailors, suggesting that in the fraternity there may probably have been then a lawful fondness for Cabbage! In fact, their suburban gardens were so profitable that they had a surplus to sell, since we read, in an old petition dated 1345, a complaint addressed by various gardeners of nobles and citizens to the Mayor. It had long been their privilege to stand in front of St. Austin's Church, Broad Street, selling Cherries, Pulse, and other articles; but they had been ordered off as a public nuisance. A counter-petition was brought up by the clergy and their friends, giving proof that the gardeners' clamours disturbed them at services, and they had another place assigned them at Blackfriars, near Baynard Castle. Rosemary Lane, by the way, which degenerated into Rag Fair, was apparently named because in it the herb-women offered Rosemary, with other "sweets and simples." But old Peascod Street was not an emporium for Peas, though it is supposed they were once grown on Goodman's Fields, close by.

Passages from Chaucer and other early poets have been quoted to show that in their day people had some liking for wild and garden flowers, but it was not till the reign of Henry VIII. that the cultivation of flowers on account of their beauty or fragrance was taken up. It might not have happened even then had not the influence of the Flemings largely affected English gardening. The springs and slopes of Clerkenwell or Hoxton, localities now offering little that is attractive to the eye, drew citizens in that direction as the north suburbs became safer, and houses began to be built in the sixteenth century, around which were parterres, also frequently a labyrinth or shrubbery was attached. The original parterre consisted of a number of small flower beds, usually forming a kind of pattern, sometimes laid down amidst earth of various colours, or occasionally in a grass plot. Thomas Hill, who wrote also under the *soubriquet* of "Didymus Mountain," was our earliest author on ornamental gardening; a small work of his is dated 1563. He discoursed much on flower-knots and labyrinths, doubtless experimenting himself; but where his garden lay we do not know. A physician and divine, as well as horticulturist, William Bulleyn, came to London about the middle of the sixteenth century, and formed a garden somewhere in the neighbourhood of Finsbury. One important work he did was to prove that a prevalent theory concerning the unsuitableness of England for many plants was without any foundation.

North of Clerkenwell there was a garden belonging to the Crown, which was sold in the time of the Commonwealth, and which might possibly have been the "Rose ground," mentioned as held by the poet Daniel during the reign of Elizabeth. Old Street, at first Eald Street, had a nursery famous in that reign, and which Oldys said yielded the choicest fruit of any part of Middlesex. At Hoxton, Guirle produced a Nectarine he called the Elruge in the reign

of Charles II., and Pearson, about the same time, was famous for Anemones. In the reign of William III. Ricketts had a large collection of useful and ornamental trees, and Darby was a great grower of exotics; crowds visited his ground in June, 1729, to see an American Aloe, which was full of magnificent flowers. Fairchild of Hoxton had a vineyard and extensive gardens; he had some knowledge of science, and wrote a paper for the Royal Society on the motion of sap in plants.—J. R. S. C.



THE BUTTERFLY ONCIDIUMS.

JUDGING from the attractive effects produced in our Orchid houses at home by the tasteful disposition of these popular Orchids, one can hardly help wondering what they are like growing naturally in the forests of Trinidad and other parts of Central and Southern America. The long wiry peduncles, hardly visible at any distance, pushing the flowers in all directions in the graceful pose and unfettered beauty seen only in Nature must be a sight worth going a long way to see, and such living pictures must compensate to a certain extent the intrepid collectors for many and varied discomforts incidental to their roving lives. We who sit at home, if not at ease at least in comparative safety, have to be content with the imaginary picture, and with the best we can do in our narrowed sphere in imitation of what our mind conceives.

These Butterfly Orchids are too well known to require anything by way of description, so a few hints on their culture is all that is needed here. Some authorities give *O. papilio* and *O. Kramerianum* specific rank, others class the latter as a variety only of the former, and certainly they seem too nearly related for further distinction. The question of what constitutes a species is, however, one that has never been fully answered, or if a rule has been laid down it is not observed, so that when treating of this matter one gets on rather dangerous ground. The same mode of treatment that suits one does for the other, and this consists of giving the plants plenty of heat and moisture, especially while growing freely, a light sunny position and a root run substantial enough to sustain their growth without hampering the progress of the roots by closeness of material. Blocks are used by some growers lightly dressed with sphagnum moss, and excellent they are if the plants are well attended to for water.

The small shallow pans so frequently recommended in these pages are very suitable for the plants, containing just enough material to maintain itself in a moist condition without very frequent waterings. Baskets may also be used or rafts, according to convenience or fancy. In any of these receptacles the compost should consist of two-thirds of sphagnum to one of peat, and the moss may be encouraged to grow freely around the bases of the pseudo-bulb in the summer, removing a little of this in the winter as holding too much moisture. The drainage in each case requires careful attention, as on this depends mainly the condition of the bulk of the compost. About half the depth of the pans or baskets should be filled with clean crocks, and a liberal admixture must also be allowed in the compost. The leaves are apt to be attacked by brown scale, and this should be kept under by frequent syringings, or healthy growth and vigorous flower spikes are out of the question.—H. R. R.

CAMBRIDGE LODGE.

ORCHID growers from all quarters know, if only by repute, the collection that is cultivated at this London home by Mr. H. J. Chapman for R. I. Measures, Esq., and the plants have only to be seen to be appreciated. Situated in the heart of densely populated Camberwell, a call is a great relief, as it carries one away, so to speak, from the bustle of City life. Only a few days ago the writer discovered the grower hard at work amongst his plants, but he was not too busy to show an interested visitor all that there was to be seen in the many houses. It is a case of Orchids to right of one, Orchids to left of one, for every house is full to repletion, as will readily be understood, when it is mentioned that the collection has been added to every year for a very long time indeed.

Perhaps the two sections represented best are the *Cypripediums* and the *Masdevallias*, and of the latter the Cambridge Lodge collection is probably one of the finest in the country. Constant purchases are made to maintain the excellence and completeness

of the genus, and almost every species in cultivation finds a place. Apparently, too, despite the smoke, of which they get considerably more than their fair share, the plants thrive admirably, but this doubtless is to a very large degree owing to the manner in which they are tended by the grower. No pains are spared to insure success, and if a particular plant does not appear quite happy it is moved, and often re-moved until the precise spot is found that suits it, this applying to all kinds as well as to *Masdevallias*.

With only one or two exceptions, a lean-to structure is entirely filled with the last-mentioned Orchids, and the majority of the plants are of the *Harryana*, *Chelsoni*, and *Veitchi* types, the *Chimera* section being in a different place, while many scores of rare species are found in various positions. Singularly beautiful is *M. Chimera Wallisi*, while such varieties of *M. Harryana* as *lilacina* and *rosea violacea* are very charming. Then there are now flowering *Lowi*, said to be one of the only two plants known, the other being at Glasnevin; *O'Brieniana*, *Shuttleworthi*, *tridactylites*, *guttulata*, *Wagneri*, *muscosa*, and the striking *Harrisoniana alba*, with scores of others, of which mention cannot now be made. A specialist in these plants might easily spend days amongst them, and he would constantly find something that would be of interest and of use to him.

To speak with full justice of the *Cypripediums* one would require a goodly amount of space, much more than is at disposal for the whole of these notes; but still mention must be made of a few. There are plants of all sizes, from the minute seedling which requires a magnifying glass before it is clearly perceptible, to great specimens in pots decidedly over a foot in diameter. Of the latter the world has heard, while of the former it is safe to predict that it will hear, though it may be in the somewhat remote future. By the way Mr. Chapman examines them, watches over them, and ministers to their wants one would suppose that some promising crosses had been made. A question to this effect elicited the information that the crosses were not of the common or garden order; but we must wait developments.

Turning now to a few of those in bloom we see many exults of first-rate quality, while of equal merit are the beautiful *Harrisonianum superbum*, and the striking *Lawrenceanum*. *Swannianum* is of great beauty, and *Chamberlainianum* possesses charms both of colour and of form that appeal very strongly to the tastes of large numbers of people. Then the sturdy *Olenus* must not be passed without notice, any more than should *Rothschildianum* or the curious *caudatum*. On a shelf in another structure *concolor*, *leucochilum*, *niveum*, and *bellatulum* are growing in a highly satisfactory manner, while of the latter several plants are producing large finely marked flowers of splendid substance. With only these few lines we must dismiss the *Cypripediums* and turn to other kinds of equal merit and interest, at any rate to the major portion of the readers of the *Journal of Horticulture*.

Lælias and *Cattleyas* are accorded a goodly proportion of the available space, and comprise some magnificent examples of almost all the foremost species and varieties. The *labiata* section, for instance, is excellent, the plants being strong, and the forms well diversified, including three plants of the true *C. labiata alba*. Almost all the *Mendeli* and *Schröderæ*s have finished flowering, after producing some splendid blooms. Of *Trianae*, *Rex* and *aurea*, with the beautiful *Lawrenceana* and *intermedia*, nothing can be said here save that the system of culture is evidently in all respects adapted to them, as is proved by the grand growth that they carry. *Lælia purpurata* is represented by some dozens of plants, and though only three or four are at the present in bloom, their quality gives some idea of the remainder, which will be at the summit of their beauty in about a week or ten days. Not quite fully developed was a flower spike of *Lælia elegans*, in which the colours were exceptionally pure.

Until a comparatively recent date some considerable difficulties were experienced in the culture of the general collection of *Odontoglossums* at Cambridge Lodge, but apparently neither owner nor grower could accept defeat. The result of their determination was that last year a new house was erected especially for the plants, which now promise to thrive as they should do, and are in every way satisfactory. The structure is a low span-roofed one with a central and two side stages, and the bulbs that have formed since the plants were placed in it are sound and plump, while the leafage is substantial and the flowers of good size and colour. One spike of *O. Pescatorei* is particularly noticeable by reason of the large, shapely, and charmingly spotted flowers it is bearing. Besides this there are crispums in abundance, with *Andersonianum*, *hystrix*, and triumphans amongst others in fine form.

In another house is one of the finest collections of *Odontoglossum* (*Miltonia*) *vexillarium* that can be found within a ten mile radius of St. Paul's Cathedral. The plants are arranged on a flat stage, and will, when the hundreds of buds are fully opened, produce a really brilliant display. This will not, however, be for about another ten days or a fortnight. Individually the specimens are not as a rule very large, but the leafage is clear in



FIG. 71.—ANGRÆCUM (AËRANTHUS) LEONIS.

colour, firm in texture, and as clean as the proverbial new pin. Amongst the few plants now carrying flowers there are a rose coloured one of large size, an almost pure white, and another of which the ground colour is pure white splashed with very bright rose. Other *Odontoglossums* noted included several fine examples of *citrosimum* and *Roezlis* in variety.

Phalaenopsis are extensively and well grown, and comprise some of the best in commerce. Curiously beautiful are the *Pleurothallis*, of which there are several in flower, including *Grobbyi*, *ornata*, *scapha*, and the solitary known specimen in cultivation of *punctulata*. These Orchids are of great botanical interest, and besides lend a very pleasing diversity to any collection. Chastely beautiful are *Angraecum Sanderianum* (*modestum*) and *Angraecum* (*Aëranthus*) *Leonis* (see woodcut, fig. 71), another charming Orchid being seen in *Saccolabium ampullaceum*. It is not every-

where that *Cœlogynes* are better grown than at Camberwell, and the plants of *C. cristata alba* are simply splendid, as also is one of the curiously coloured *C. pandurata*.

In a house that feels delightfully cool after one or two of the others that are in the full sun *Cymbidiums* are looking superb. Great plants of *C. Lowianum*, *C. eburneum*, and *C. Lowianum* *Mandianum* are carrying many fine flowers; while in another house the not very often seen *C. Devonianum* is bearing two splendid spikes. The *Vandas* have been reserved to bring these notes to a conclusion, but not because of the inferiority of the plants; on the contrary, they are thoroughly well grown, and comprise some fine forms, of which the Cambridge Lodge variety of *V. tricolor* is one of the best. Then there are specimens of *V. suavis*, *V. Parrishi Marriottiana*, differing from the type in having self coloured instead of barred flowers, and *V. teres gigantea*, a portion of the original plant which gained for Baron Schröder a first class certificate at the last meeting of the Royal Horticultural Society. For the completeness of the collection and the finished manner in which the plants are grown both the owner and the grower are deserving of the heartiest congratulation.—H. W.

HINTS TO EXHIBITORS.

THIS short paper, which, I trust, will at least be in some measure helpful to beginners, may pertinently be prefaced by a few remarks on the value of exhibiting. With the intrinsic value we have nothing to do, for rare, indeed, is it the incentive launching a young gardener on an exhibiting career. Few will regard it as a short cut to fortune, though it may be the road to fame. As a training school to develop the latent powers of a man it is, I think, of unquestionable value. Other causes there are, doubtless, which may and do work out means to this end, but none so prompt in its action or so bracing in effect as public competition. Knowing, as we do, how often a gardener's life is apt to run its even course to the borders of uneventfulness, despite its varied character, there is the possibility of routine reaching this stage with the danger of dulling its charms. The tonic properties of competition, under whatever shape or form, stimulate a man who is doing well to do better, nor stop until he is urged to his best.

Gardeners, too, are prone to seclude themselves in a little world of their own, and there are but few spheres of their work in which a tendency to this does not prevail. Now and again, perhaps, they are tempted forth to inspect and comment on the handiwork of their *confrères* at the local show, but the interest taken is but half-hearted at best, for the chief interest is wanting—that is, a stake in the matter. But with the humblest exhibitor how all this is changed. Obviously, this question of exhibiting, or not exhibiting, is with many not a matter of choice, but I well know that with many more their own diffidence is the sole preventive. This diffidence in a young man—perhaps with some of the older brethren, too—probably proceeds from aversion to test his powers under the fiercer light which beats on the exhibition table. That it is in the power of many who are halting between two opinions to throw in a casting vote of to be, or not to be, is a fact. Some will openly admit that it is the case. Many and various are the reasons assigned for standing aloof, most of which would vanish if tested by impartial argument.

Although it is not the present intention to plead for impoverished societies, starved for the lack of active support, this poverty oft serves as a motive for the diffident ones to excuse their presence and co-operation. However, once this barrier is surmounted, and the zest afforded equally by victory or defeat is felt, it is astonishing what additional interest is given to life and work. One hint only on this phase of the subject I venture to offer here—that is, commence by contributing some small stand, or group, or specimen to your show “not for competition,” but not in a haphazard fashion. Endeavour to make it worthy of you and the employer you represent; then, for the rest I have no fear, the first step which costs has been taken, and

“He either fears his fate too much, or his deserts are small
Who does not put it to the test to gain or lose it all.”

Returning to the primary object of this paper, our young exhibitor will, if he is wise, be anxious to employ all legitimate means to the end of success. Nothing will be too trifling for his attention, for “Trifles make perfection, and perfection is no trifle.” In the first place the schedule has to be studied, some require more of this than others. Those classes in which our competitor is likely to figure will require a clear interpretation of the text. Failing this, from ambiguous wording or otherwise, have a clear

definition from the secretary, and let his word be the letter of your law (preserved) if future occasion should require it. Respecting the scheduled details of various paraphernalia, its make and measurement, with all the necessary (or unnecessary) regulations regarding entries and time, neither be guided nor governed by any laxity previously noticed amongst those with whom familiarity has bred contempt. Expect no grace from the powers that be on the eventful day, and you will not be disappointed. Be equipped on your field-days with all probable requirements in the way of stakes, blocks, pots, or matting, also your water-can and syringe or sprayer, if likely to be wanted, and you will neither covet nor desire other men's goods at a time they are least disposed to part with them. With the latter articles it is well to affix a good-sized luggage label legibly addressed, and at the summons to quit see them safely disposed of *pro tem*.

The stock in trade of an exhibitor being of the simplest kind prevents no excuse for the very amateurish examples of carpentry not infrequently seen; but I think young exhibitors are less likely to err in this direction than older hands, who are prone to take liberties in makeshifts. The novice, anyway, cannot thus afford to handicap his efforts, and a smart man will be known by his equipments, giving his stands, trays, or what not an annual refresher of paint. The nearer a system is approached (as with all phases of work, indeed) the more will be accomplished with ease and satisfaction to the performer. Note-taking will be of great service, and if systematically observed will, at least, obviate confusion at the near approach of the fateful day. As a preparatory measure a man will have fairly good ideas of his strong points; not less will he endeavour to be cognisant of the probable weak points of a certain show—that is, classes which, as a rule, are sparsely filled or poorly represented, and act accordingly. The moral strength of this teaching may appear somewhat questionable, but I would rather see our young exhibitor swim in shallow water than founder out of depth in his earliest efforts.

Practical note-taking may commence on receipt of the schedule by making a memorandum of those classes it is thought possible to compete in, and as time speeds on periodical inspection of the plants, the blooms, or the crops will keep the possible or probable entries well in view till such time as the date for entering comes round. Some days prior to this lists of each entry will be drawn up, facilitating the final arrangement. In some cases, rather important ones too, where a day's shade or sunshine may upset calculations at the last moment, and possibly debar the entry or consequent filling, it is well, I think, to ask some grace from the secretary, and obtain permission to enter such things conditionally. A postcard at the last moment can settle the matter and satisfy the secretary. Owing to the uncertainty attached to these cases it often means a lapse of effort to bring the exhibit up to the finishing point, hence I have dilated on what may seem to be a very small matter.

Above all things, show every consideration to that hardworked official, the secretary. Let him see you on your arrival at the show; be for the time seen, and not heard more than is absolutely necessary to prevent mistakes. Do not dun him for free passes for your friends, but endeavour by a quiet, unostentatious, and dignified demeanour to do your duty as an exhibitor as, we will suppose, you have done your duty as a cultivator, with those objects of your care and skill now submitted to the public gaze; and whatever the results, be seen at your best personally.

One general observation on judging relevant to an exhibitor's handiwork may be included here, that is the analytical system of pointing. Indispensable as this now is, in many cases, there are some in which it is especially so, yet fails to cover all the ground. I do not know of any class not lending itself in more or less degree to harmony of arrangement or tasteful setting up. In some few instances this is, of course, a potent governing factor, but there are many more where point judging appears to exclude this desirable feature. Appears, I say, for I think that the *tout ensemble* presented to the judicial eye cannot by the mental disintegration for the purpose of pointing wholly fail in its influence. In any case, the discrepancy between the work of a deft hand and the rough and ready method is too marked not to make the acquisition of the former a most desirable attainment.

As much of the moral teaching of a flower show has been previously exemplified in various ways, I need but in conclusion point to the educational value of literal observation amongst the exhibits. This is, doubtless, very general, but the wrong view is often taken whereby the teaching is lost. It appears as if many of our exhibitors viewed their own exhibits through a mental telescope, but are unable to bring it to bear on a rival's produce only by looking through the wrong end. I would that my young friend should make it his endeavour to see all the good points and strong features in his fellow competitor's work, and, *per contra*, the

weak ones of his own. He is morally a strong man who does this with Spartan impartiality, and though but a young exhibitor, who may for the nonce be defeated, such defeats can pave the way to future success.—EX-EXHIBITOR.

GRAPE CULTURE IN ITS COMMERCIAL ASPECT.

(Continued from page 413.)

THE drainage of a border is very important, and it must be of such nature as not to allow stagnation, or so free as to permit the substance of the border to be too much drawn. A Vine during its growing season can hardly be afforded too much water, provided the drainage is good. How very often in moving old Vines the border which has received every attention is found to be almost devoid of roots, and they have been found far away roaming in the kitchen garden. The practice of the future will probably lean to more shallow borders—that is, not exceeding 2 feet 6 inches in depth.

There have scarcely ever been places established from their beginning depending upon the Vine alone, but nearly always other crops are grown in the houses until the Vines come into bearing, and at the present day Tomato growing is the usual practice. The grower must, therefore, as well as raising his young Vines ready for the spring, arrange for having Tomato plants ready also. It is of the first moment that a variety of Tomato should be chosen that is good for market. It must be of hardy constitution, growing fruit not too large, running from four to six to a pound, as perfectly round a shape as possible, of good colour, and firm texture. But I must not dwell on the Tomato, but keep to our subject—the Vine.

If it were not possible to tide over the first two years while the Vines are growing the bearing wood, with other crops in the houses, it would be much more difficult than it is to establish a vineyard under glass. The young Vines properly grown should be, say about 2 feet high by the middle of May, and then is a good time to plant them in the border which has been prepared for them. At the time of planting bonemeal is a good dressing to mix with the soil, and short manure should be used as a mulching on the top. They will require careful and constant little attentions until they throw out new roots, and abundance of clear water during the growing season through June, July, and August. By the end of August growth ought to be discouraged and the Vine led more to develop and ripen the wood already made.

Where Vines are strong at planting time, and given liberal treatment through their first year, they sometimes grow 20 and even 25 feet long. Indeed, I have seen Vines cropped the first year after planting from the eyes, and bearing 10 lbs. of fruit. But this is not wise where the establishment of permanent Vines is intended, as the loss of constitution can be noted in such Vines for years afterwards.

There is one aspect in Vine culture that requires carefully weighing from its commercial side, and that is the question of extension *v.* restriction. I am bound to say that the extension system of culture affords in the end by far the best results, and these are arrived at simply on account of the capabilities of Nature herself.

It is more rational, and predisposes to strength of constitution, but whether it is right from a mere commercial point of view is a different question. It is necessary to have a quick return, and a number of Vines planted from 2 feet to 3 feet apart will, the second season, produce all along the length of the house some Grapes, whereas of course when planted wide apart there will not be so much return for some years later. And that advantage in the restrictive system extends to the third and fourth years. By the fourth season, at any rate, the extension-treated Vine will be equal to the several Vines henceforward in producing powers, of stronger constitution, and much more likely to resist the ravages of red spider and other foes.

How often it occurs to one that our mechanically constructed houses impose restriction even upon Vines treated under what is called the extension system. When a Vine attains the age of four years it easily, with benefit to its health and wealth, would double itself in one season if the structure which covers it could be enlarged there and then. This presents an idea to the ingenious which if solved would be of immense value to Vine growers; but I am afraid it is outside the realms of practice, and we must own that man's mechanical arrangements limit the plain will of bountiful Nature.

Constitution, which embraces powers of assimilation, is the chief thing to strive for in cultivating the Vine, and this leads to the thought of fertilisers for the Vine. First get constitution, and then we may proceed to intense culture. The many artificially

compounded mixtures recommended as concentrated food for the Vine are mostly very well suited for it, and for some localities they may even be perfect; but where localities differ so much in the character of their soil and other conditions to universally apply one formula of mixture would be adding equals to unequals, and so be unscientific.

A grower of the Vine for profit must be careful to know the natural characteristics of his own locality, and endeavour to counteract any too predominant features and to add to those that are deficient. The elements of manurial value are known facts, and do not vary by being distributed over areas; but localities of areas vary, and it is when proceeding on that foundation that the best commercial results are obtained by the application of potash, lime, or ammonia. One thing we have progressed in is our humane treatment of the Vine by presenting to it food nourishing and invigorating in quite appetising forms, widely different from the practice of burying dead horses in Vine borders.

After the first summer of the young Vines' growth and crop of Tomatoes the borders will require special attention during the winter to enrich them, and also to provide room for the Vines the following season. The trellis will have to be put up, and should the houses not have been fully heated at the commencement of operations then the boilers will have to be seen to, and pipes added, up to the necessary power for a vinery. A Vine or fruit grower for profit under glass requires to have a capability of turning his hand to many trades, for I can imagine, even under the best circumstances, that unless the necessary staff can be employed in boiler setting, pipe fixing, and glazing during the dull time, the unknown quantity of profit may be very small.

The mention of boilers opens up to the gardener and market gardener a vast subject of discussion. From our earliest days we can remember the boiler controversies. Every gardener had, and the same thing prevails now, his favourite boiler. Boilers have been made of every conceivable form, and in every case the idea aimed at was the utmost extraction of heat from the fuel consumed before the draught necessary to burn it passed it up the chimney; and at the present day we are far from perfect, for with the very best boilers more heat escapes than is captured for use.

The market grower generally, like all the brotherhood, has his pet ideas about boilers. But a market grower is safer to follow as a rule, for necessity makes him less faddish, and he nearly always adopts a type of boiler as simple as possible, generally nowadays taking the form of a longitudinal tubular of heavy cast-iron pipes put together on the premises. Where the length of piping to be heated is only, say, 1000 feet, probably the old-fashioned cast-iron saddle is still the best, but beyond a size capable of heating that length of pipe, on account of contraction and expansion of the metal, they would be unsafe.

It seems to me that in establishing a vineyard under glass it is absolutely necessary that a system of progression should be set out, which allows a development of the producing powers keeping pace with the outlay, and with all favourable advantages on the grower's side, it will be some few years before he has produce to send to market to show a living profit, beyond the necessary interest and the adjustment of his capital. When that time arrives, and a foundation is laid for making a yearly revenue with some amount of certainty, then the grower may launch out into larger additions, but should the progression of increase be allowed to go beyond his financial management, then the concern will not give the best results.—PETER KAY.

(To be concluded.)

PASSING THE RUBICON.

TRULY the woes and wants of a gardener are manifold, yet the joys, the triumphs which invest the quiet life are sufficiently numerous to preserve the equilibrium till such time as one question with its added weight for age is brought into the scale, then is a perceptible impetus given to the balance of disagreeables. We gardeners find it difficult to locate this dividing line, and from its unpleasant nature it is apt to be made a shifting quantity, but from the other view, that of private or public employers, a more fixed definition prevails, and in competition for some vacant situation, what the candidate strives to ignore the powers that be hesitate not to declaim that "he is too old;" then is he forced to feel, if not to admit, that he has passed the Rubicon.

In endeavouring to localise this boundary line it may, I think, be a fairly correct estimate in placing it at the age of forty-five, although this is probably stretching it to its extreme limit, this appearing to be the limit fixed in competition for a public post as gardener. Here, for special reasons, has this dividing line been thus stretched, because the ripeness of experience is a *sine qua non*

for this particular office ; and although all live and learn, especially gardeners, and admit their field of work and length of days cannot possibly compass the erudition it contains, at this age a man's abilities and fitness for the position have unquestionably been proved. There are, of course, other reasons in this instance for drawing a hard and fast line, which need not here detain, nor, indeed, may this phase of the question, for compared with the preponderating amount of private situations it is of but little moment.

With the latter and larger side, as affecting the great majority, the question is less clear if more important. Seldom is any clearly defined limit expressed in the stipulations, although a rejected candidate may have a vague consciousness that this is the only objection raised against him. In this case five years are possibly yet due to him on the lines laid down for public competition. (It must be understood that the age specifications are only approximate here—in this paper.) We old boys are doubtless a little envious of some who advertise their age, amongst other qualifications, somewhere in the thirties. Now and again may be noticed a man advertising in "the prime of life." Place that where you will, I invariably interpret this statement as that of a man who has passed the Rubicon, and feels it. If this class did not include a body of men so superlatively qualified in all but that miserable little failing of age I should not venture to have broached this subject ; but it seems to me that the superiority they may justly claim is swept away by this minor (or major) consideration.

Why is it so? Why it is so it is difficult to understand. Physically the man may be as strong as he has ever been, and continue so for many years. Mentally he may claim infinitely superior qualifications, sufficiently superior to more than counter-balance any deficiency likely to occur in the former. Was this a question of brute force pure and simple then might we yield the palm to youth, however reluctantly ; but the whole thing appears to be the result of an obviously false reasoning. Whilst hoping that space will be granted for these thoughts on the matter, we have, I think, a considerable measure of sympathy from those who are as ready to publish a gardener's woes as they are his triumphs. I do not say that they can directly help us, but sympathy is always helpful.

In the average duration of a gardener's life, and taking as an example the man who in its vicissitudes has won and acquired a good position to again lose it by one or other cause he is powerless to control or avert, not of infrequent occurrence, there appears to be far too short a measure of its span in which his abilities are allowed free scope. Of the earlier days, which are far from being all football and frolic, we may take it that the age of thirty is pretty well attained ere he is regarded as fit for the higher and more responsible position as head.

With the bright pictures he then draws we have nothing to do. If hopes are realised, and the full course is run under the happiest circumstances, more could not be expected or desired. From personal observation and experience of life I take this to be the exception rather than the rule, and few and short appear the years spent in one or more places ere he is forced to face the disagreeable fact that age, though not telling upon him, is telling against him. Him—he who is now advertising that superior qualification, "in the prime of life," to find that it is seriously qualified solely by sentiment, if I may thus term it.

Gardeners, as a rule, are men that wear well, and are not thus early worn out. There is, if I recollect aright, but one profession claiming but a slightly higher place for longevity in statistics compiled for the purpose of life insurance. Physical powers, which are not a primary consideration in the class alluded to, may show but the least perceptible deterioration for many years, and intellectually added years but give increased power ; yet somehow the man "in the prime of life," if compelled to enter the lists of competition for a situation, feels then that he is in sight of that narrow stream, the Rubicon, and very probably the final result makes him painfully aware that he has passed it.

No invidious comparison need be drawn with his more youthful conqueror, but it appears lamentable that forty years should stand so little chance in competition with thirty, and fifty none at all. For the latter, in many instances, a score of years of good, honest, active service may be accredited to the worker, yet he is weighed in the balance and found wanting. Wanting in what? It is a question awaiting an answer. It is a question I have kept before my mind for some time—have endeavoured to view impartially from both sides, yet cannot answer it. True I must admit that, to some extent, partiality cannot be entirely eliminated in my case, for I have crossed the Rubicon. Was this not the case I should, doubtless, not endeavour to be the mouthpiece of those who have crossed it also.

Ere concluding, for the benefit of all concerned, I would like to describe the feelings of those just over the boundary. In the first

place it is essential that our typical example is one who has filled a good position, and filled it in the fullest sense of the term—capably and honourably. From some cause common to a reverse of fortune he is seeking fresh fields and pastures new. In the full consciousness of power—moral, physical, and mental—he stands the perfect type of a British gardener, or as near to it as we can imagine. Backed by the weight of an irreproachable character ; strong in that experience which time alone can supply ; fitted for each and every phase of duty, not the least of which is the efficient handling of the *personnel* of a large establishment, how confident this man feels of success in open competition, or in those frequent instances of private treaty what more probable than the known fact that he is eligible for re-appointment should secure it at the first opportunity which occurs? These are the feelings of many doomed to disappointment, who run for the prize but are handicapped by age—not old age, but he has passed the Rubicon.

This is not an isolated case ; rather does it appear to be the common lot of many at a certain stage in their career. Henceforward must they take a back seat in the drama of life, or be left standing "out," to see the more prominent parts taken by young actors, who may perform well, but by all the rules of life have yet to ripen by age alone, which unaccountably, at least to me, will seriously discount their future chances of a similar situation should they, unfortunately, have to seek it.—OLD BOY.



THE CHRYSANTHEMUM IN PORTUGAL.

THIS flower has long been cultivated in Portugal, as most readers of Mr. Burbidge's work on the subject will no doubt remember. It would seem, however, of late to be rising in popular esteem, for we notice in a French contemporary that a gardener in Lisbon has recently published a new book in the Portuguese language dealing with the cultivation of the flower from all points of view. The title of the new work is "Os Chrysanthemosea sua cultura."

CHRYSANTHEMUM PICTURES.

Just at the present moment there is a charming collection of cleverly executed water colour drawings, by Miss Hill Burton, on view at the Clifford Galleries, Haymarket. Many of them depict the glories of the Wistaria, Iris, Maple, and other flowering subjects dear to the heart of the florists of Japan. No 18, however, is of interest to Chrysanthemum admirers, and is entitled "Gathering Chrysanthemums for Market." A female figure is busily engaged at work gathering from a multi-coloured bank of these plants, the blooms which are to be disposed of. No. 59, "Chrysanthemum House," is a large finely coloured piece of work quite typical of such a scene as can only be seen in the native home of our favourite. There is a huge bank of monster blooms, probably on single stemmed plants, all aglow beneath the roof of a bamboo-constructed house, such as the Japanese use for protecting the Queen of Autumn. At an opening towards the end of the structure may be seen a little group of native sight-seers admiring what is undoubtedly an extensive and imposing collection. This picture is one of the best of its kind we have ever seen, and should find a home in the abode of some of our wealthy English admirers of the Chrysanthemum.

A NEW CHRYSANTHEMUM CATALOGUE.

M. O. de Meulenaere of Ghent, who published an exhaustive list of new Chrysanthemums two years ago, and which was based upon an entirely new principle to which we then draw attention, has brought his work close up to date by the publication of a supplement within the past few days. M. de Meulenaere's new list contains all the novelties sent out between the years 1894 and 1896. The descriptions are full without being verbose, classification is given, and also dates of introduction and raisers' names. M. de Meulenaere's lists are invaluable additions to the literature of the Chrysanthemum, especially for those whose business it is to write for the press. The publisher is Mons. Ad. Hoste, Rue des Champs, Ghent.

THE FRENCH N.C.S.

This newly formed society now counts among its list of members 176 supporters, and includes all the well known raisers and growers in France, besides many foreigners of distinction. Hitherto the officers of the Society only held their appointments provisionally, but at a recent meeting held at Lyons the formal election of the officers for the year was proceeded with. The following gentlemen were elected to serve for the year 1896 :—President, Mons. Maxim de la Rocheterie, President de la Société d'Horticulture d'Orléans et du Loiret. Vice-presidents, MM. Bruant, Calvat, Couillard, Délaux, Duval, Fatzer, Treyeran, Van den Heede. Secretary, M. Phillippe Rivoire, 16, Rue de l'Algérie, Lyons. Assistant Secretary, M. Brossy. Treasurer, M. Dubreuil. The General Committee consists of thirty elected members, and includes well known

press representatives like M. Ed. André, M. Lucien Chauré, M. Martinet, besides amateurs and nurserymen. Nine members form the Floral Committee, which we should feel inclined to think is hardly enough. The names of its members are MM. Charles Albert, Bonnefond, Couillard, Crozy, Délaux, Fatzer, Parent, Rosette, and De Reydellet.—P.

ROYAL HORTICULTURAL SOCIETY.

MAY 5TH.

SCIENTIFIC COMMITTEE.—Present: Dr. M. T. Masters (in the chair); Mr. McLachlan, Mr. Michael, Rev. W. Wilks, Mr. Douglas, Dr. Müller, Dr. Russell, Rev. G. H. Engleheart, Rev. G. Henslow (Hon. Sec.); and Prof. Zacharias, Director of the Botanic Garden, Hamburg (visitor).

Primula, Auricula × *Alpine*.—Dr. Masters reported upon the two abnormal specimens brought to the last meeting occurring among the seedling hybrids raised by Mr. Douglas. One was foliaceous, the corolla, &c., being represented by minute green leaves. In the other the corolla was only abnormally bent.

Bardfield Oxlip.—With reference to the statement by Mr. French that this species resisted being crossed by the Cowslip or Primrose, Mr. C. Wolley Dod sent specimens from his garden to show that there was reason to suppose that they were the result of the Bardfield Oxlip having been crossed by the Primrose. The foliage sent, however, agreed almost entirely with that of the Oxlip type, and in one kind only of the flowers was there a slight tendency to produce the inflated calyx tube and the crest or corona within the corolla tube, characteristic of Primroses and Cowslips, the total absence of this being a marked feature of the Oxlip.

Raspberry-stem Borer.—Mr. MacLachlan remarked on a specimen sent by Mr. Pearson of Chilwell, that the injury resulted in the destruction of the buds, the eggs being hatched in the flower; but that it was difficult to suggest a remedy. Cart grease smeared round the base of the canes, or kerosine emulsion washed round the stems has been suggested as preventives. The grub was that of *Lampronia rubiella*, a small moth. It formed the prey of tomtits.

Primula Auricula, ×.—Mr. Douglas exhibited plants of crosses between the pubescent type (the pod bearer) and the Alpine; and remarked upon the perseverance of humble bees in visiting the Auricula; within a quarter of an hour he had observed that a bee visited 508 flowers, thus giving two seconds, on the average, to each.

Cineraria, Origin of.—Mr. Douglas also exhibited several sprays of different shades of mauve, from seedlings raised from the plant at Kew of *Cineraria cruenta*. He called attention to the original illustration of this species, and of *C. lanata* in the "Bot. Mag.," and considered that the probabilities were in favour of *C. lanata*, or else a cross with this species being the source of the cultivated forms.

Colouring of Flowers.—Dr. Russell gave some details of a preliminary experiment with white Hyacinths treated with various salts to test the influence they might have upon the colouring of the flowers. The only bulbs obtainable were, unfortunately, very inferior in quality, as the experiment was not proposed till too late in the season. On March 6th the bulbs were treated with the following solutions, all being grown in water:—Cobalt nitrate, copper sulphate, ferrous sulphate, manganese nitrate, nickel nitrate, chromium acetate, zinc nitrate, ammonium nitrate, urea, soluble Prussian blue, coli, and water alone, distilled. All contained 15 grains to a pint of distilled water. As the liquids evaporated they were made up with a stronger solution of 30 grains to the pint. Two plants only indicated any colour in the flowers. The one treated with nickel nitrate on March 25th looked very bad, limp and yellow; the bud, which would naturally have been green, showed a distinctly pink colour. The one treated with ferrous sulphate blossomed, and had also a decidedly pink tinge. All the rest were either more or less arrested in growth, sickly or dead. As a preliminary experiment, and that with unsatisfactory materials, the result, so far as the above two were concerned, was interesting; but it was the general opinion that the solutions were too strong, and that this would probably account for the injurious effects upon the growth of the Hyacinths. It is proposed to try further experiments with white Pelargoniums.

Narcissus, Crosses.—Mr. Engleheart in describing the various results of his experience in crossing the Narcissus during the last fifteen years observed that the main cross was between the Trumpet Narcissi (as pod bearers) and the Poeticus. This gave rise to the Incomparabilis section; but that among the seedlings of the cross there would sometimes arise pure Poeticus; the male was always more or less prepotent, but sometimes the offspring would show no trace of the female parent. Dr. Masters observed that the same result sometimes occurred in other plants. Dr. Zacharias alluded to the case of Strawberries ("False Crosses," "Gard. Chron.," 1894, p. 568), and Mr. Henslow mentioned that when the Rhododendron "Monarch" (which contained the species *R. jasminiflorum*, twice, *R. javanicum*, *R. Lobbii*, and *R. Brookeanum* var. *gracile*) was crossed with *R. malayanum* the result was almost pure *malayanum*.

Larch Disease.—Dr. Masters exhibited a specimen showing the fungus, *Peziza Willkommii*, in the fruiting stage. It has attacked the stem to such an extent that the whole of the wood has grown excentrically.

Abies amabilis.—He also exhibited a fine spray of this tree laden with many catkins of a brilliant red and yellow colour. This had been previously described, from imperfect specimens, as bearing single catkins only.



EVENTS OF THE WEEK.—Horticulturists both in town and country will be busy during the ensuing week. On Saturday, May 16th, there will be a show held at Olympia, while on the following Tuesday will open the ninth exhibition in the Temple Gardens, a reference to which will be found in a paragraph below.

— WEATHER IN LONDON.—The continuance of the dry weather is beginning to cause anxiety to horticulturists in and about London. The ground is now rapidly becoming dry beneath, and a steady fall of warm rain would do inestimable good to all kinds of crops.

— WEATHER IN THE NORTH.—May 5th–12th. A week of intensely warm weather, the days of bright almost unbroken sunshine, the heat over 70° in the shade, tempered occasionally by light easterly breezes, and rather low temperature on some evenings. Tuesday morning showed no appearance whatever of the rain now beginning to be much desired.—B. D., *S. Perthshire*.

— ROYAL HORTICULTURAL SOCIETY.—The Royal Horticultural Society's ninth great annual flower show in the Inner Temple Gardens will open on Tuesday, May 19th, and promises to be up to the usual standard of excellence. On Wednesday, May 20th, the Great Western Railway will run cheap trains from Cardiff, Newport, Chepstow, Lydney, Newnham, and Stroud, to London, and gardeners may prolong their stay in London if they wish until as late as the 25th of May. The London, Brighton, and South Coast Railway are also running cheap trains to London Bridge and Victoria on the same date. At 10.30 A.M., May 19th, the appointed judges will meet at the Secretary's tent, and at 11 A.M. the Fruit, Floral, and Orchid Committees will also assemble. Owing to the great pressure upon the Society's officials, plants for certificate cannot be entered on the morning of the show.

— AN EXTRAORDINARY SPECIMEN OF BERBERIS STENOPHYLLA.—It may be interesting to remark that a very fine example of this beautiful spring flowering shrub is growing in the pleasure grounds at Harborne Hall, the spacious seat of Walter Chamberlain, Esq. At the present time it is in a state of glorious inflorescence, and some idea of its effect may be formed when it is stated that the specimen, which was planted about ten years ago, measures 21 feet across its branches in one direction, 15 feet in the opposite direction, and about 10 feet high. Its gracefully disposed, elegant, and arched slender branches, sweeping from the turf upwards, present a fountain-like effect, or, as the intelligent and enthusiastic head gardener (Mr. C. R. Bick), by whom it was planted, remarked, "it was highly suggestive of some pyrotechnical display." That it is one of the most elegant and desirable of our ornamental shrubs there can be no question. It would be interesting to learn if there are any other specimens of the species in question elsewhere equal to, or superior in size; at least, I believe there is none in the neighbourhood of Birmingham of the magnitude indicated.—VISITOR.

— COMPLIMENTARY SUPPER.—A complimentary supper was given recently in Rothesay to Mr. James Grieve, jun., and Mr. Alexander Jack, who have been for some years in the employment of Messrs. Dobbie & Co., and who are leaving to take up other positions. Mr. Grieve goes to Edinburgh to join the firm of Messrs. James Grieve and Sons, of which his father is principal, and Mr. Jack to take up a position in connection with the Prudential Assurance Co. in Rothesay. Mr. William Cuthbertson occupied the chair, and was supported by the guests of the evening, Mr. James Dobbie (the founder of the firm), Mr. James Grieve (Edinburgh), and Mr. Burnie, and the company consisted of about fifty of the employés. The Chairman in his remarks said that during this spring a staff of over a hundred had been constantly employed, and among such a number there were frequent changes. This was an occasion which was pleasant for all concerned, because their two friends were leaving the firm's employment to better themselves, and they had in the most considerate manner consulted the firm's convenience by delaying their departure until the great rush of spring work was well over. He hoped that in their new sphere both would meet with abundant success. A presentation of several horticultural works was made to Mr. Grieve, and of a stylographic pen to Mr. Jack, which were suitably acknowledged.

— ROYAL METEOROLOGICAL SOCIETY.—At the ordinary meeting of the Society on Wednesday, the 20th inst., at 7.30 P.M., the following paper will be read, "The Exposure of Anemometers," by Richard H. Curtis, F.R.Met.Soc.

— MR. W. B. SMALE.—We are pleased to learn from the "Devon County Standard" that Mr. W. B. Smale, F.R.H.S., Barton Nursery, Torquay, has had the honour of being appointed a magistrate of the borough in which he is so well known and so much respected.

— COLONIAL FRUIT.—The P. and O. Company's steamer "Rome" arrived at the Albert Dock, London, recently, having on board 10,568 cases of Apples from Hobart, 1650 from Melbourne, and 120 from Adelaide. The improvement noticed in last year's consignments seems characteristic of this year's imports.

— WAKEFIELD PAXTON SOCIETY.—A recent meeting was well attended, Mr. L. Twigg presiding and Mr. W. Hudson being Vice-Chairman. Mr. Burton of Dintcar gave a paper on "Weeds," referring to those which were most troublesome to farmers and gardeners, and to the best modes of keeping them down and exterminating them. He also dealt with weeds which by cultivation become plants of value medicinally or otherwise. Several specimens of weeds were exhibited and their peculiarities explained. After an interesting discussion a vote of thanks was given to Mr. Burton.

— A GRAPE PHENOMENON.—When visiting Dr. May's garden at Caversham the other day I observed in one of the vineries a Black Hamburg Vine that had been grafted with the Muscat Hamburg. The graft had made a rod and was fruiting, bearing Muscat Hamburg Grapes. About 3 inches below the graft a shoot had been taken up from the stock (Black Hamburg), which was also fruiting and bearing Muscat Hamburg Grapes. I should like to know if this is an usual occurrence, and how the phenomenon can be explained. Perhaps some of your readers may be able to throw light on the subject.—J. S.

— BIRDS' NESTS.—Mr. S. Arnett's notes on the curious freaks of birds with regard to their nesting places are very interesting. Last year a wagtail made its home on a pot in a greenhouse here, the plant being *Pteris tremula*. It naturally required frequent waterings, but this did not deter the plucky mother in the least. One ventilator was down at all times, as a means of ingress and egress. This year another pair of birds inspected the house, with a view, I suppose, to the same end; but owing to internal readjustment they appeared unsettled, and have probably found a more congenial place of abode. I remember a few years ago a wagtail's nest in a vase close to the mansion on a much-frequented promenade. One morning a much larger egg was found with the others. The young cuckoo resulting ousted the birds one by one, until its bulky form more than filled the nest itself.—GEO. DYKE, *Stubton Gardens*.

— THE DROUGHT.—It seems early to term the recent long spell of dry weather we have experienced as drought, but there can be no doubt but that it may speedily assume that aspect, as it seems disposed to be so continuous. There have been numerous threatenings of rain, but all have, southwards at least, proved illusive. It was held that no two seasons immediately repeat themselves, and therefore there could not this summer be any duplication of that exceeding drought which marked so many of the early months of the year. But unless there be a speedy change actual experience may show that two lean years may follow in succession, or at least two dry ones. It is true we are near the Temple show date, and some years have found that exhibition held under excessively moist conditions. We hope that such will not be the case this year, badly as rain may be needed. But everyone expects rain the moment the wind changes from its long-retained cold, harsh, north-easterly quarter. The misfortune is that the wind will not change, but sticks to its cold quarter all too stedfastly. We can do nothing to change its purpose, but must wait patiently in hope that better things may prevail. So far vegetation, where not actually injured by frosts, and these because of the general dryness have done less harm than might otherwise have been the case, has suffered most from the keen, cold, harsh north-easterly winds, although their actual dryness has done little mischief. But daily the sun is getting power, and its effects on the soil may soon become great. The product of a change to not only softer air, but to a moist atmosphere, would be remarkable, no doubt, and in all cases growth would exhibit a rebound. Specially valuable just now would good rain be in helping to wash insects, maggots especially, from fruit trees and bushes, for these pests, in spite of the promise of a great fruit crop, bid fair to do it exceeding harm.—D.

— MR. W. B. LATHAM.—We are informed that after suffering uncomplainingly for twelve years, the excellent Curator of the Birmingham Botanic Gardens has recently undergone a serious operation, which resulted in the successful removal from his back of a tumour weighing 2 lbs. We are very pleased to learn, as all Mr. Latham's friends will be, that he is making satisfactory progress towards what all hope will be permanent recovery.

— SALVIA PATENS.—I was glad to observe that "A Gardener" (page 425) has drawn attention to this good old favourite bedding plant, and the exquisite colour of which it is possessed. I have a vivid recollection of frequently employing it twenty years ago and upwards, especially in association with either the now too seldom seen *Calceolaria amplexicaulis* or Mangles' Variegated Pelargonium pegged down as an edging. The pale lemon yellow of the former and the bright pale rosy flowers of the latter harmonised so pleasingly with the rich cerulean blue of the *Salvia*.—W. G.

— PLUMBAGO CAPENSIS.—By "A Gardener's" opportune notice of *Salvia patens* (page 425) I am reminded of the attributes of the above charming old plant, and more especially of its use in the parterre, where climatal conditions will allow. For the purpose indicated its delicate pale blue flowers are positively unique, the nearest approach to it being the pale blue varieties of *Lobelias*. My first acquaintance with this *Plumbago* as a bedder was nearly forty years ago at Wilton House, Salisbury, the seat of the Earl of Pembroke, at the time indicated in possession of the late Right Hon. Sidney Herbert, afterwards Lord Herbert of Lea. There it was extensively used as a dwarf bedder, the trailing shoots of the plants being kept closely pegged down, and in due time a compact sheet of the pale azure blossoms was presented, more easy to imagine than to describe. I believe the self same beds are still used for the *Plumbago*—at least, they were up to a few years ago, so I was informed. Subsequently I employed it successfully in a similar manner for several years when at Ettington Park, in South Warwickshire, though, owing to the climate, not quite equal with the southern success. As a harmonious bordering I variously employed such as Mangles' variegated Pelargonium, a pink coloured Verbena, or a pink dwarf Pelargonium with pleasing effect; and by way of a change as a silvery edging the elegant foliaged *Polemonium coeruleum variegatum*.—W. GARDINER, *Birmingham*.

— AUSTRALIAN PARKS AND RECREATION RESERVES.—Australians are keenly alive to the sanitary and social value of open air spaces in the vicinity of their cities and towns, and there is scarcely a township or village, however small, which has not its public reserve. In New South Wales it has always been the policy of the State to provide the residents of incorporated towns with parks and reserves for public recreation, and the City of Sydney contains within its boundaries an extent of parks, squares, and public gardens larger than exists in most of the great cities of the world without regard even to area. They cover altogether 748 acres, or 26 per cent. of the whole of the City proper. In addition to these reserves the inhabitants of Sydney have the use of 780 acres, formerly reserved for the water supply of the City, but now known as the Centennial Park. This magnificent recreation ground has been cleared and planted, and is laid out with walks and drives, so that it is likely to become a favourite resort with the citizens. The suburban municipalities are also well provided for, as they contain, including the Centennial Park, about 2750 acres of public parks and reserves, dedicated to or purchased for the people by the Colonial Government, or rather more than 3 per cent. of their aggregate area. In addition to these reserves the Colonial Government dedicated to the people in December, 1879, a large area of land, situated within easy distance of the metropolis. This estate, now known as the National Park, with the additions subsequently made in 1880 and 1883, contains a total area of 36,320 acres, surrounding the picturesque bay of Port Hacking, and extending along the southern coast towards the mountainous district of Illawarra. It is covered with magnificent virgin forests, the scenery is charming, and its beauties attract thousands of visitors. In the country districts reserves, extending often over 1,000,000 acres, have been proclaimed as temporary commons, whilst considerable areas have been from time to time dedicated as permanent commons attached to inland townships, which are otherwise well provided with parks and reserves within their boundaries. A recreation ground, designated Ku-ring-gai Chase, and situated on the shores of the Hawkesbury River, was dedicated in December, 1894, for public use. The area of the Chase is 35,300 acres, and comprises some of the most romantic scenery in the colony.

— THE TAMWORTH PANSY SHOW.—The schedule of the above show, which is to be held in the grounds at Bolehill on the 27th inst., shows that good encouragement is given to different sections of cultivators of Pansies and Violas. Prizes are offered for local amateurs, cottagers, also for all comers and from everywhere, including trade growers. Gold and silver medals are offered for trade exhibits, and seventy-five money prizes in the various other classes. Mr. Sydenham announces that he will have a million plants in bloom, so there will be something to see besides the competitive exhibition.

— SOCIÉTÉ FRANÇAISE D'HORTICULTURE DE LONDRES.—The seventh Bulletin of this Society came recently to hand, and contains the reports of the Society's proceedings during the year 1895. It would appear that the progress is satisfactory, and that the number of members shows no signs of diminution. Particulars are given of the various meetings that have been held, and in addition there are several articles on various phases of horticulture that cannot fail to be of service to all readers. The publication is a highly creditable one, and it is hoped that the success of the Society in the future will result in even better ones than this being sent out. The Secretary is Mons. Louis Gentil, 4, Old Compton Street, London, W.C.

— THE WEATHER LAST MONTH.—April was dry and mild, with only very slight frosts on five days. The wind was in a westerly direction twenty-one days. Total rainfall, 1.06 inch, which fell on twelve days, the greatest daily fall being 0.33 inch on the 10th. Barometer, highest reading, 30.298 at 9 P.M. on the 20th; lowest, 29.412 at 9 A.M. on the 29th. Temperature, highest in the shade, 68° on the 27th; lowest, 30° on the 24th. Mean of daily maxima, 56.40°; mean of daily minima, 39.26°. Mean temperature of the month, 47.83°. Lowest on the grass, 21° on the 2nd and 4th. Highest in the sun, 133° on the 18th. Mean of earth at 3 feet, 47.90°. Total sunshine, 173 hours 55 minutes. There were two sunless days.—W. H. DIVERS, *Belvoir Castle Gardens, Grantham.*

— RICHARDIA ÆTHIOPICA.—The Arum Lily, although so well known, is not always grown to the best advantage. We often see half-starved plants grown in too much heat and kept in small pots, which gives them a weak appearance, but if planted out of doors all the summer and then lifted a profusion of bloom during winter and spring will be the result. Anyone having a stock of plants, however small, will do well to take them in hand at once, and withhold water for a week or two until all danger of frost is over. They should then be turned out of their pots and have all the old soil shaken away from their roots, and planted out singly in trenches like Celery on a well-manured piece of ground that is fully exposed to the sun. They will require very little attention all the summer. As the old foliage dies away fine healthy growth will be substituted. About the end of September lift and pot them in some rich soil, using rather large pots so as not to injure their roots, and place in a house kept at about 50°, with plenty of light. Flowers will soon appear, and if the plants are well supplied with liquid manure a succession of bloom will be kept up for many months. Richardias are gross feeders, and should never be allowed to get dry after they are planted out, or green fly will soon attack them.—GROWER.

— VENTILATING COOL HOUSES.—The closing words of "H. D.'s" critique on this subject brings to mind an amusing picture of self-reliance and self-confidence in his newly found system of ventilation, and openly defies the "storm" of criticism anticipated to sink the old ship which he has so recently taken in charge. No one admires pluck and confidence more than myself, but during the few years which the faculty of memory enables me to recall, I have more than once been witness to the sinking of a "ship" with a self-infallible man at the wheel, and when the calm, which invariably follows the storm, makes its appearance the brave and self-reliant commander is a being of the past. I should be sorry to think that such a misfortune may fall to the lot of one so gifted as "H. D.;" we, and myself personally, should mourn the vacant pages which his active mind now fills. I heartily coincide with the views expressed, although I am under the conviction that the old notion of ventilation, or, in other words, "coddling," has long been "exploded." In my short travels I have certainly not met with "many good gardeners" who adopt this somewhat in-hygienic treatment. Pure air is the elixir of life, and the more all things get, with reasonable discretion, the better and stronger are they. Allow me to congratulate "H. D." for launching the "old ship," and shaping the course so fairly; but defy not the "storm" until safely harboured; accidents may occur with the best and safest at the wheel.—F. DUNN, *Oakleigh.*

— FIGS AT CHISWICK.—Whilst all the fine bush plants growing in the large show house at these gardens exhibit, as they have from the first, the greatest possible fruitfulness, there is just now standing on one corner of the centre bed a large but very thin bush of the well known Pingo de Mel that is carrying a heavy crop. The fruits come in dense clusters, and are of good size and excellent flavour when ripe. We counted on this bush the other day (it is in a 13-inch pot) no less than 120 fruits rapidly approaching the ripening stage. This fact speaks volumes for the sort, especially for pot culture. Potting takes place about once in two years, and pruning, which is thinning, is hard. The house will furnish a great crop again this year without doubt.

— TRAPPING WIREWORM.—The following little colloquy with one of our greatest of market Cucumber growers tells its own tale. "Do you use the turf from this pasture for your Cucumbers?" "Yes, we do." "Do you not suffer from wireworm?" "Well, we get our share." "How do you destroy them?" "We set traps for them in the houses by inserting here and there large pieces of Carrots, into which they enter, and thus are caught in large quantities." There is nothing new in this system of trapping, but its very simplicity sometimes leads to its being ignored. However, out of several thousands of Cucumber plants growing in over 100 houses not one seemed to have suffered from or to be lacking through injury from wireworm. The trapping must, however, be persisted in.—WANDERER.

— GRAPE FACTORIES.—When we see, as is the case at Broxbourne, apparently over 100 huge glass houses devoted to Grape production, and the annual produce exceeds considerably over 100 tons, and first-class market Grapes too, it seems difficult to regard such production in the same way that we look upon the few vineries seen in private gardens, and upon the care of which great anxiety as well as much labour is expended. In this latter case Grape growing may be regarded as gardening, but in the former case it seems to be more fitly termed Grape manufacturing. It does not matter that the houses cover many acres, or if end to end would run into miles in length, or that the Vines are in them by thousands. There seems to be not a pin to choose between them relative to variety and time of starting, and their productive power seems to be alike also. No gardener should ever set himself up as a first-class Grape grower until he has seen one of these huge factories and studied the methods adopted in them. Practically this method may be said to resemble the feeding of a mill with corn at one end, bread for human food being the product at the other. The houses are there because protection is essential to the Vines; the hot-water pipes because heat, too, is essential to the manufacture. Soil is also an essential because it constitutes the larder from which certain ingredients in both Vine and fruit are drawn, and the Vines themselves are there because these are the primary subjects in Grape production. But after all the actual process with these aids seems to resolve itself into the feeding the soil with certain elements called manures, which again are rendered soluble and capable of utilisation through the agency of water, and Nature, under the beneficial surroundings furnished, does the rest. From the bursting of the bud to the colouring of the Grapes the process of manufacture goes on, and the product, though relatively so enormous, seems to be by these market growers regarded as merely a matter of course. It is only the novice who wonders.—A. D.

DRYING MELONS FOR RIPENING.

A FEW weeks ago "E. D. S." (page 294) gave a lucid and practical article on the culture of Melons. With one item advised I am obliged to be at variance, and that is the "drying off process." I have been tutored on both modes in my earlier days—withholding water on the fruit getting ripe, on the one hand, and, on the other, watering copiously right up to the time of cutting. I hold to the latter treatment, and shall continue it until I can see the utility of the "drying off process." Firstly, is it not against Nature to "dry off" the plants? Secondly, must not they get overrun with red spider? Thirdly, is the flavour of the fruits improved thereby?

I have gained several prizes for Melons in strong competition, the majority of my opponents adhering to the drying treatment, which I ignore. It would be interesting if exhibitors for honours at the hands of the R.H.S. would indicate to which process their fruit had been subjected. This would be to a certain extent a test of the relative value of the two methods, and an extra line added to the reports on the awards being made would be duly noted.

It cannot be said that abundance of water tends to crack the fruit this rarely happens if water is given systematically. It more frequently occurs through not removing the superfluous foliage often enough, but allowing it to grow into a thicket and then making a thorough clearance. This causes the sap to rush somewhere, mostly to the fruits, the superabundance causing them to burst the tissues.—G. D., *Stubton Hall Gardens.*

ENGLISH AND OTHER TULIPS.

It is now many years since fabulous sums of money changed hands for one Tulip bulb; when, in fact, the Tulip mania raged the most fiercely, but with the passing years have come many changes, and it will be safe to say that these have been for the better in the matter of price. Specialists in these flowers now are just as keen in seeing merits and demerits in them, equally as enthusiastic in singing their praises, and probably as skilful in the growing of the plants, but they are too matter of fact—too careful, if you choose, but really too attached to the flowers as such, than to degrade them as dice in a gambling game in the lust for gold, as in the bad old days of the past, and thus fabulous prices are gone for ever. No, the Tulip fancier of to-day, though always ready—nay, eager—to purchase, wants to see value for his money ere he parts with it. Then will he treasure the bulbs as a precious possession, because of the beauty locked up in them, and will possibly, as was recorded awhile back in the Journal, of one grower, take them to the seaside every year for the benefit of their health. All fanciers do not go so far as that, but everyone worthy the name does all that can be done to provide year by year such a display as will bring all the others to see, to admire, and to criticise the beds and their occupants.

It is a curious fact, too, in regard to these flowers that they possess some attribute peculiarly their own, which secures to them the continued favour of anyone who has commenced their culture. It is rare indeed that one hears of a secession from the ranks of the Tulip brigade; on the contrary, they cling to their culture as they would cling to life itself. What it really is that holds them together in such a decisive manner is hard—perhaps impossible to say. Other flowers have enthusiasts and votaries larger in numbers, but many keep falling off and “taking up” some plant of an entirely different nature. This, as has been said, is seldom the case with English Tulips; in fact, accessions to the ranks are now of more frequent occurrence, and it is anticipated by many people who are well qualified to form an opinion that the rise in their popularity will be more rapid in the future than it has been in the recent past. However, this remains to be proved, but no reason can be adduced against it, provided a person has time at disposal that can be devoted to them, for like all other plants, they are incessant almost in their demands on the grower's attention.

One essential towards this extension is education. Many people know the Dutch Tulip because it is cheap, abundant, and conspicuous in nearly every park and garden in the country. But how often does one see in the ordinary walks of life a bed of really good English varieties? The writer would venture to answer the question he has propounded by the aid of three little words, which are, Seldom or never. Here, then, we see the necessity of education, for unless people are familiarised with them, and their superb beauty is brought forcibly before them, and the flowers are understood, it cannot be expected that they will embark in their culture. Some who know them may say that they can be seen at the shows, the Temple next Tuesday, Wednesday, and Thursday for example, but one could with equal truth retort that everybody does not and cannot go to shows. No, that is not sufficient. They must be grown in our parks and our public gardens, and he would be a benefactor who would induce the powers that be to utilise them—by them I mean the true English varieties, and not alone the so-called florists' varieties which emanate from the land of dykes.

There is a man, however, known through the length and breadth of the horticultural world who is doing his best to popularise these most beautiful flowers. Every year may be seen in his nurseries, in his shop windows, and under his name at various floral exhibitions, flowers of English Tulips—perfect in shape, size, and colour. Most readers will before now have recognised the man, but, if only as a matter of form, the name—Mr. Peter Barr—is given, who, it must in justice be recorded, is ably assisted by his son, Mr. William Barr, in this and other good work. If anyone be desirous of taking a lesson in these plants he should choose the first sunny day after seeing the notes, and wend his way, as many have done before him, to Messrs. Barr & Son's, Long Ditton Nurseries, and thoroughly examine the varieties there grown. It will be a long task, but if conscientiously carried out the germs of the Tulip fancy may be implanted, and time, with favouring opportunities, will do the rest in adding to the at present limited family of Tuliparians.

To go over the whole of this magnificent collection, examine every individual variety, and make copious notes would be a stupendous work, but it would be a labour of love, of which the true Tulip fancier would appreciate and take the greatest possible advantage. For the purposes of these remarks, however, it must suffice if a few in each section are mentioned, but they can be taken as of the best quality and truly representative of the whole. It may be well before really commencing, to call to the minds of readers the differences in the three sections, which will be taken alphabetically.

First, then, we have bizarres, the colours comprising orange, scarlet, crimson, and many shades of black and brown on a lemon or a yellow ground. Each flower must possess a stainless or yellow base. Bybloemens

are black, violet, purple, pale lilac, and lavender on a clear white ground. Roses include pink, rose, scarlet, and crimson on a pure white ground. The base in the case of both the second and third named must be pure white. This gives briefly the necessary colours in the rectified stage of each section.

But before the rectified Tulip can be an established fact we must have the breeder, in which the colour is absolutely unbroken, such as a red with a pure yellow base in the bizarres, a violet with a white base in bybloemens, and a rose with a white base in the roses. However, perfection cannot be even approached, either in the breeder or the rectified stage, unless the flower is of good shape, with overlapping and rounded petals; while for the latter the flamings or featherings, as the case may be, must come regularly, and not be scattered promiscuously over the surface of the flower. But let us now turn to the varieties, taking the sections in the order that they have already been placed.

First, then, let us look over the bizarre breeders. Stooping to get beneath the awning of canvas that protects the flowers we are at once confronted with a variety named Sulphur. It is a handsome flower of beautiful shape, of a peculiar shade of olive in colour, and almost as sweet as a Rose. Totally distinct are the magnificent flowers of Sir Joseph Paxton, which is one of the very front rank. The colour is dark brown. Deep yellowish buff is the shade characteristic of John Heap, while the glorious Goldfinder is very bright red with a perfect yellow base. Yellowish brown and a clear shining brown are the colours of Masterpiece and Lord Frederick Cavendish respectively. Six breeders have been mentioned; so we will now choose a like number of rectified bizarres.

Worthy in every respect of the great name they bear are the examples of Sir Joseph Paxton. The shining crimson-black featherings in the one stock and flamings in the other are of exquisite beauty, as accentuated by the pale yellow ground and immaculate base. Entirely distinct by reason of the glowing crimson on the golden ground is the more conspicuous and rarer, but not more beautiful, Samuel Barlow. Colbert, chocolate on gold, and Dr. Hutcheon, a somewhat deeper shade of the same hue on pure yellow, are both deserving of close attention. For a variety of very low price on account of its abundance, and not, as might be supposed, of any decided inferiority, Caliph will be difficult to improve upon. The ground and the base are soft lemon, while the markings—variegations as they are sometimes termed—are maroon-black. With its large, handsome flowers George Hayward secures much admiration. The hue is deep crimson on clear gold.

Passing now to the bybloemens in the breeder stage, we must bear in mind that here the ground and basal colour must be white. Of peculiar colour is Talisman, with its shapely upstanding flowers, and its clear white base. Possibly deep slate will best convey an idea of the shade. The glowing beauty of the pale purple Miss Hardy enforces many expressions of approbation, and many people regard it as the *doyenné* of the section. A conspicuous flower is Ashmole's No. 114, which is a pleasing heliotrope in colour, while the large reddish purple Glory of Stakehill is superb. Adonis, rich violet; and Chancellor, slaty purple, are both varieties of proved merit, and their mention must carry us on to the rectified bybloemens.

As Talisman was accorded the premier position in the breeder paragraph it shall have the same place in this one. There are two strains at Long Ditton, the one being in the intense violet markings infinitely superior to the other. The deep crimson black on the clear white ground renders Queen of May very attractive. The black on white feathering of Adonis places it in an almost unrivalled position, approached only by the massive Glory of Stakehill, which in this as in the breeder state is far above ordinary merit. The name of Friar Tuck implies something pleasant, and such is the flower. The markings of purple are very fine indeed. Cheap, but not to be despised for this reason, is Lord Denman, for it possesses undoubted merits. The colour is a distinct shade of puce violet.

Of all the English Tulips those included in the rose section may, perhaps, be designated the most popular. The colours are so varied, clear or soft, delicate or glowing, while the form and contour of some of the varieties are well nigh, if not quite, perfect. Of the selfs or breeders, the soft rose-hued, shapely blooms of Mabel are always admired, though not more than are those of Annie MacGregor. Rosy scarlet is the colour of this. The dazzling cerise of Industry, the clear pink of Lady Burdett Coutts, the carmine-rose of Rose Hill, also a noble example sent by Mr. Bennett Poë, lend additional charms to the collection. The shape of each leaves little to be desired, and the base of the blooms is clear white.

With the rectified forms of the rose section we shall bring these brief notes to a close, and, if only for consistency sake, they will be confined to half a dozen. There are several strains of Mabel, but the superb markings of one place it high above the others. The shade of rose in this variety is very pleasing. Annie MacGregor, bright rosy scarlet on pure white, is one of the choicest and the most largely grown. Aglaia, soft rose, must not be overlooked. Then there are the cerise and white Industry, the scarlet and white Lord Derby,

and the delicate rose of Modesty, that receive and thoroughly deserve a very large share of admiration.

Some of the varieties, and others of similar character, are more or less scarce, but not a few are fortunately beautiful, and, as in other commodities, the supply rather than intrinsic merit governs the price. Still, there are always people who prefer rarities, and are willing to pay for them, but as a rule, beginners not unnaturally commence with

Visitors who prefer to see blocks of colour each composed of several plants of any given variety can do so, for an immense number of Tulips is grown of practically all sections and from various countries. From the flower fields of Ditton came the varieties that were honoured last week, and represented in the engraving, fig. 72. There are, as only a cursory glance will show, three distinct Tulips represented, two of them being species and the other a Darwin. The Royal Horticultural Society's Floral Committee accorded an award of merit to each of them. No. 1 is



FIG. 72.—DECORATIVE TULIPS.—1, *TULIPA VITALLINA*; 2, *T. SAXATILIS*; 3, THE SULTAN.

the cheaper forms. Those who desire the greatest amount of beauty at the smallest outlay will not err by trying the unnamed mixed varieties. As a floral spectacle the beds of them at Ditton are rich beyond description. Thousands of blooms, in every conceivable colour found in Tulips, glittering in the sunshine, command admiration, and if such beds were provided in the London parks they would take the town by storm.

These mixed masses are not the less but the more beautiful by the diversity in height of the plants of the different varieties, as there is no suspicion of heaviness and stiff formality. There have been many brilliantly imposing beds of early Dutch Tulips in the London parks this season, but none to equal in beauty in its varied aspects the splendid mixed masses of chiefly English varieties provided by Mr. Barr for all to see and enjoy who have the opportunity.

Tulipa vitallina, a large flowered species of great beauty. The colour is very pale sulphur yellow with occasional suffusions of green towards the base of the flower. No. 2, *T. saxatilis*, is, however, of entirely different appearance, for the flowers are of medium size only, while the colour is soft rose throughout the upper portion of the segments, the base being deep yellow. No. 3, the Darwin Tulip, is well named The Sultan. The form is almost perfect, and the colour is the most intense maroon black. The display is extensive indeed, brilliant, and diversified, the collection in the aggregate presenting a veritable museum of Tulips, and if it be true that supply creates a demand many homes and gardens are destined to be brightened with English Tulips in the not far distant future; at least if this is otherwise it cannot be the fault of the bold bulbarians who are devoting themselves so zealously to the object in view.—THE JUNIOR.



ROSE SHOW FIXTURES IN 1896.

- June 17th (Wednesday).—York.†
 „ 18th (Thursday).—Colchester and Isle of Wight (Ryde).
 „ 24th (Wednesday).—Reading (N.R.S.)
 „ 25th (Thursday).—Hereford.
 „ 27th (Saturday).—Canterbury and Windsor.
 „ 30th (Tuesday).—Maidstone and Sutton.
 July 1st (Wednesday).—Croydon, Ealing, Farnham, and Leatherhead.
 „ 2nd (Thursday).—Bath, Eltham, and Norwich.
 „ 4th (Saturday).—Crystal Palace (N.R.S.)
 „ 7th (Tuesday).—Wolverhampton.†
 „ 8th (Wednesday).—Canterbury (Hospital Fête), Chelmsford, Hitchin, Lee,* Newcastle-on-Tyne,† Redhill (Reigate), and Tunbridge Wells.
 „ 9th (Thursday).—Helensburgh, Woodbridge, and Worksop.
 „ 15th (Wednesday).—Ulverston (N.R.S.)
 „ 18th (Saturday).—New Brighton.
 „ 21st (Tuesday).—Tibshelf.
 „ 30th (Thursday).—Trentham.
 Aug. 5th (Wednesday).—Chester* and Chesterfield.
 „ 19th (Wednesday).—Shrewsbury.*

† A show lasting three days. * A show lasting two days.

Any dates not appearing in the present list I shall be glad to publish in the next one.—EDWARD MAWLEY, *Rosebank, Berkhamsted, Herts.*

GEORGE PRINCE MEMORIAL PRIZE FUND.

THE following additional subscriptions have been received:—Messrs. W. & H. Burch, £1; Rev. Geo. Jeans, 5s.; Rev. T. N. Flintoff, £1 1s.; Mr. Geo. Mount, 10s. 6d.; Dr. Seaton, 10s.; Mr. Geo. Moules, 5s.; Captain Christy, £1; Colonel Pitt, £2 2s.; J. H. Arkwright, Esq., £1; Conway Jones, Esq., 10s.; Messrs. Harkness & Sons, £1 1s.; A. Tate, Esq., £1 1s.; Messrs. D. & W. Croll, £1 1s.; F. Dennison, Esq., 10s. 6d.; Mrs. Dandas, 5s.

ROSE CHANGING FROM YELLOW TO SCARLET.

I HAVE pleasure in forwarding along with this note for your inspection a Rose bloom which I have to-day cut from a tree that has been in my possession for the last three years. I have, however, unfortunately forgotten the name of it. The colour, you will notice, is a deep scarlet, but for the past two seasons the blooms have been of a light yellow colour. This change appears very remarkable to me, especially after mentioning the matter to amateur friends in this district, who declare that so far as their experience goes, it is unique and quite unaccountable. Will you be so good as to explain this to me through your valuable columns? at the same time please add to your kindness by mentioning the name of the variety.—F. BUILT, *Birmingham.*

[We can only account for the "change" on the supposition that either two buds were inserted in the stock, or that the yellow variety was budded on a plant of the red, the growth from which has now flowered. The variety can only be named by actual comparison with others, though some local Rose specialist might suggest a name. We have never seen a yellow Rose with foliage like that of the red specimen in question. Perhaps some of our correspondents may have something to say on changes in Roses.]

ROSE THOUGHTS.

I AM rather surprised at our friend "A. C.'s" remark relative to Maréchal Niel never having given him a second bloom, and as to perpetuality being "an impostor." He adds, with his usual quaintness, "Dare I say it?" I grant him, the Maréchal, not "A. C.'s," efforts, that way are few and far between; but in my experience he does occasionally bloom again. Personally I have never been very happy with *Perle des Jardins*, rarely getting a bloom that has what I very possibly wrongly consider the most material point—good form, and failing in this, what is colour? This time last year, when in Madeira, I saw Cloth of Gold in perfection, on the tree that excited the praise of our friend, Mr. A. Hill Gray; there it was allowed to ramble at its own sweet will over a trellis covering a walk, and the glorious blooms hung down over our heads; but then what is the stem of this tree? I did not measure it certainly, but it appeared as large as my arm, and I do not think I exaggerate in saying it was at least 9 inches in circumference.

When the Rose fever first attacked me it was a severe attack, and has never been cured. I was living at Hinton Charterhouse, near Bath. Almost the first buds on which I tried my 'prentice hand was Cloth of Gold, fired by the old trees that I had seen in one or two gardens in that neighbourhood. It must have been in my second Rose year that I budded the stock, and I lived there twelve years. When the buds grew I planted the tree against the front of the house, and as it had made splendid growth fondly hoped that the following year would see the

auriferous cloth spread over the house—well, the cloth was there certainly, but it was green; but say what you like, the foliage of Cloth of Gold is beautiful, so it was allowed to run on over the house, year after year. I looked for bloom, and looked in vain. It was not till the year before I left that my patience was rewarded, then it bloomed profusely.

An old Rose tree, in some cases, is comparatively useless. Not so, Cloth of Gold; like good wine, it requires age; unlike the young lady to whom an elderly gentleman named Page made an offer thus, having found her glove, which she had dropped, he returned it with these lines:—

"If from glove you take the letter G,
 Then glove is love, and that I send to thee."

But the young lady was equal to the occasion (when are they not?) and replied—

"If from page you take the letter P,
 Then page is age, and that won't do for me."

But age will do for everyone who wants Cloth of Gold in its glory.

Mr. Williamson says he has removed his to a more favourable situation; but, query, does it not require age in the plants and age in position? I think it does, and I fear he may yet be disappointed. I have heard that if the long shoots are trained in a serpentine way bloom is hastened, but I cannot say whether this is true or not, but it is worth trying. Beautiful as it is, I agree with "W. R. Raillem" that it is not equal to Maréchal Niel in *his glory*, one main reason being that there is not the same amount of "stuff" in it.

Is it the offspring of a moth that does the mischief to our huddled standards, of which "W. R. Raillem" complains? If the bud has shot out, and the leaves then get matted together, yes, I think that may be; neither is it strange that in their flight, being mostly small, with wings less than half an inch long, they are so easily missed, for almost always on settling they choose the under part of the leaf. I am disposed to think that the trouble begins much earlier than this, that very often the bud is destroyed possibly very soon after insertion, but that the mischief is not noticeable. Very likely I am wrong, but I attribute the death of many inserted buds to an egg laid in the heart of the bud itself, and then perhaps what was a plump bud looks like a small extinct volcano; side shoots may yet appear having escaped, but our plump bud is a wreck. I hazard the opinion that this is due to one of the weevil tribe, their name is legion, and mischief, writ large, is on the whole tribe, and there are hundreds of varieties. A very frequent visitor to our Roses is the beautiful little green one, and no doubt many a fair worshipper of the Rose has admired the little rascal, and allowed it to escape. Many of them when taken tuck up their legs and sham death to perfection. Every beetle with a long snout or beak is of the weevil tribe, and are no friends to gardeners, and deserve no mercy at our hands.—Y. B. A. Z.

ROSE GROWING.

(Concluded from page 419.)

Duplicates.—The most special thing to guard against in Rose showing is having duplicates. Having two Roses of the same kind in a box is fatal, however good all the rest may be. This causes a difficulty in judging, as some few Roses are extremely alike. It is even possible that thus an injustice may be done. At South Kensington once I had obtained a first prize, the judging was over, the prize card was up, and I had gone away quite unsuspectingly. When I came back I found the prize given to the second box, and my own disqualified. I had noticed my neighbour taking a deep interest in my Roses. He selected one which was wrongly labelled, and declared it was a duplicate. Some of the N.R.S. Committee, whom he got together, agreed with him, and the judges' decision was overruled. In point of fact, it was not Earl of Pembroke as I had mistakenly labelled it, but Marie Rady, which sometimes is almost undistinguishable from Marie Baumann, a bloom of which I had already in the box. The case was considered unsatisfactory, and at a following Committee meeting it was decided that there must be no such going behind the decision of the judges for the future.

Fair Play.—After a somewhat lengthened experience, I should say that no contests are conducted more fairly than Rose shows. The judges take great pains, and are absolutely impartial. The exhibitors, so far as I have seen, are scrupulously fair to one another. I know but one instance of Roses being offered to a man to show as his own; and in that instance they were refused. Such a case as Dean Hole mentions I never came across, though of course it is quite possible. I will quote it as he gives it in his famous Rose book. "I remember," says the Dean, "some years ago, just as we had commenced our survey as judges at one of the provincial shows, an exhibitor appeared, hot, and out of breath, and begged pardon, but he had left a knife among his Roses." He had a magnificent Rose in his coat, and, from information I had received, I thought it my duty to watch his movements without appearing to do so. He left the tent with a much smaller Rose in his buttonhole, and I went immediately to his boxes. There was the illustrious stranger, resplendent, but with a fatal beauty. The cunning one had hoist himself with his own petard, for he had forgotten another bloom of the same Rose already in his twenty-four, and I at once wrote, 'Disqualified for duplicates' upon his exhibition card."

Roses in Particular.—I conclude with a few remarks on "Roses in Particular"—i.e., on my own special favourites, and those which I recommend. I shall follow, in my remarks, the divisions of the new N.R. Society's catalogue. It begins with exhibition Roses; but this is by far too wide a field for me to enter on. Mr. Mawley's excellent Rose

election list, which appears every autumn in the *Journal of Horticulture*, will here be the best guide. I have already indicated some of my aversions and admirations. I will only say one thing—that few varieties, and half a dozen of each of the best, will be found far more useful than ten times as many all of different sorts. Marie Baumann, A. K. Williams, Mrs. J. Laing are perhaps the three most useful of H.P.'s; and Maréchal Niel, The Bride, and Souvenir d'Elise Vardon the three most reliable for the Tea classes. I am only advising quite small exhibitors. Have a few, and all good ones; and keep in touch with all advances. Have a hobby, and ride it judiciously. Happy is the man that has a hobby.

Hybrid Teas are not in general good exhibition Roses, having hardly sufficient substance, though in this very class Captain Christy and La France are the perfection of garden Roses, and will sometimes stand very well in the box. Lady Mary Fitzwilliam is a very good show Rose; Gustave Regis is pretty in the bud and for the garden. Of the Bourbons Mrs. Paul and Souvenir de Malmaison will suffice. Of the Hybrid Chinas, Madame Plantier, which makes into a splendid bush of short-lived white blossoms. Of the Briars, Austrian and Harrisoni. Of the Sweet Briars, Meg Merrilies and Lady Penzance. Of the Banksias, the double yellow for cutting, and the double white for perfume. The single yellow is pretty and slightly scented, the single white to be avoided.

Climbing Roses.—I have already mentioned climbing Roses. Some of the Noisettes in this class are excellent. Reine Marie Henriette (the red Gloire) was perhaps the best red until the rise of Crimson Rambler. Gloire de Dijon, and its large progeny, especially Madame Berard, may safely be planted.

The lines of Mr. P. M. James may fairly, I think, be accepted to form my finish:—

"A Rose looked in a window
One bleak November morn;
'Twas a lingering ray of sunshine,
The wreck of the year to adorn.
The beauty and grace of the flower
Shed gladness and joy through the room,
And the Rose, looking in at the window,
Dispelled November's gloom.
There's a Rose looking in at the window
In every condition of life;
In days of content and enjoyment,
In hours with bitterness rife.
Where'er there's a smile of a woman,
As bright as a beam from above,
'Tis the Rose looking in at the window,
And filling the dwelling with love."

—ALAN CHEALES

THE R.H.S. AND PROVINCIAL SHOWS.

I HAVE read and re-read the interesting leader (page 387) on provincial shows, and notwithstanding the hopeful view taken on the new departure of the R.H.S. in connection therewith, I fear that the action of the Society in the matter will not have the desired effect. It was with pleasure that many interested in horticulture read the letters and articles which appeared in your *Journal* about Christmas, and when at the annual meeting it was announced that the R.H.S. had considered the suggestion this pleasure was increased, although a general feeling of regret was felt that the new departure would only take the form of a deputation visiting two shows in 1896, and at the same time actually fixing the places.

It appears to me that the mistake made by the R.H.S. in this procedure has been the haste in adopting it before the result had been fully considered. It might have been better if at the annual meeting discussion had taken place amongst the members present, and their counsel taken. It might have also been a good plan if before deciding the R.H.S. Council had drawn up a series of carefully worded questions and sent them to the principal local societies requesting answers and suggestions. By these and other means a consensus of opinion might have been obtained, which would have been most valuable to the Council in their deliberation, and something of a permanent nature might have been agreed on. Instead of this a deputation system has been inaugurated, the places decided on to be visited, and an intimation given that no others could be entertained this year. In passing I may add so far as the horticultural world in general knowing anything of the decision of the Council, all I can gather is that the announcement of the President came on it as a great surprise, causing much astonishment to the principal societies in England, so that at the commencement a grievance has been created which will take a long time before it is dispelled.

Let me analyse the system of deputation and see how it will work. Of course the number of individual societies is so large that to visit all is entirely out of the question. There therefore appears to remain two courses open. 1, To select from these societies the most prominent and visit them in turn. It is probable if this course was adopted twenty may be chosen. Visiting two a year, York show will be revisited in 1906. 2, To divide the British Isles in, say eight areas, visiting two of such areas each year. This appears more feasible, as each area would be visited in four years; but how will this work?

Let me take the other place to be visited this year—Chester—and form a small compact area, including Staffordshire, Shropshire, and Cheshire. In this area are well-known shows at Shrewsbury, Wolver-

hampton, and Trentham. It follows therefore if the areas are visited in proper sequence, and the Society select the shows in the order they are named, that Shrewsbury would be visited in 1900, Wolverhampton 1904, and Trentham in 1908, and Chester again in 1912. So when analysed the whole thing seems absurd. What possible good to horticulture in that district can the visit to York in 1896, and a second visit in 1906, by one plan do, or the visit to Chester in 1896 and a probable next visit in 1912 by the other? Besides, is it likely that large societies like those named, and which have been passed on one side by the R.H.S. this year in the selection of an entirely new society for the honour of its visit, would consent to any such arrangement? And yet if the R.H.S.'s deputation visit the areas in a perfectly fair manner there could be no other. Their self-respect would give them no alternative but to have nothing to do with any such scheme. Already I have heard rumours that some societies will not send invitations, even this year, under the arrangements the R.H.S. have made. Besides, is it likely that the President of the R.H.S. and a large deputation would keep on going to shows year after year? The novelty will be gone after the present year, or perhaps next, and it needs no prophetic spirit to say what the end of the scheme will be. To show the haste in which the matter has been brought out, the work the deputation have to do is not defined, and it appears that even at York it will require some caution to keep the judges and deputation to their respective tasks that they shall not clash. Of course there is always one pleasant side to a deputational visit. I refer to the inevitable banquet. Pleasant speeches are made, kind congratulations passed, everybody important praised, and all go home happy.

Your readers may say, Why this criticism? In reply I criticise because I want to see a more satisfactory state of things than the deputation system to two shows a year, and I venture to submit a few crude ideas of my own, which others may turn about, alter, add to, and so reconstruct, that they might possibly be of use to the horticultural world. What I should like to see are real permanent unions in the provinces with the R.H.S., and as a basis for such a union I would urge the following conditions:—

- 1, That all societies of seven years standing shall be eligible.
- 2, That every society in union shall pay to the R.H.S. a sum of, say, £21, such sum to cover the expenses of three judges selected by the R.H.S. from its Council or Committees, and also the Secretary to visit the show, as well as defray the cost of medals and certificates.
- 3, The schedule of the society in union to contain full particulars what medals shall be given, the classes for which they should be given, and the regulations (drawn up by the R.H.S.) under which they are given.
- 4, That medals and certificates shall be issued by the R.H.S., and awarded by the three judges and Secretary sent down, and that such certificate shall be of the full value of the R.H.S. London certificates.
- 5, That no exhibit shall be eligible for a certificate or medal from a wider area than fifty (or 100) miles from the place of exhibition. Everything within thirty miles of London must be exhibited in London.
- 6, That full particulars of all entries for medals and certificates should be sent to the Secretary of the R.H.S. a fortnight before the day of exhibition, and a record made by the Secretary of the R.H.S. of any medals and certificates granted, to whom granted, and for what exhibits.
- 7, Each society in union should have the privilege of nominating as an hon. member of the R.H.S. one gardener in its district to represent it on the Council.

I venture to think if a scheme formed on these lines could be initiated there would be a great benefit to horticulture, inasmuch as there would be permanent centres of the R.H.S. in different parts of England, free to all societies to become such if they wish, free from all jealousy, always at work, without any spasmodic excitement of deputational influence, and which could bring the R.H.S. in constant touch with horticulture in all its phases in the country.

At present any society affiliated with the R.H.S. can, on payment of an annual subscription, purchase silver and bronze medals of the R.H.S. These are given away often by third-rate judges; but yet a silver Bankian medal, given to a local firm for ordinary exhibits, has for advertising purposes the same value as the same medal given to the largest London houses for their magnificent productions. This system appears to me to be too lax.—F. U. Y.

[Our correspondent has evidently given much thought to the subject on which he writes, but does not appear to know that the Council is limited by the charter to twelve Fellows of the Society, exclusive of the President, Treasurer, and Secretary; one-fifth retiring annually.]

ARUM LILIES AFTER FLOWERING.

THE brilliant display of tall, stately white spathes now begins to wane, and as they cease to be effective cut down the stems as low as possible. Strong plants continue to produce several flower stems after the first has faded, therefore the need of giving the later flowers a good chance is plainly evident, but those plants that have already given several blooms will now be exhausted. The plants ought to be kept cool, moist, and in a freely ventilated structure. This is a needful preparation towards standing the plants outdoors, which may be done when the foliage ceases to be tender. Choose a partially shaded position, but above all avoid one either sunny or shady where strong winds from any quarter are prevalent. It is desirable to preserve the foliage healthy for some time yet, if possible, because it plays an important part in

manufacturing material, which after undergoing chemical changes is stored in the fleshy crowns of the plants as the leaves fade and die. Abundance of water should be given the plants during the maturing period.

There are two methods of summer treatment. One is to plant in trenches of rich soil and manure, watering freely throughout the summer, lifting and potting in September. The other plan consists in allowing the plants to remain in their pots until the foliage has died down, when repotting may be done. This will be in August. Both plans are good, and may be followed with successful results.—E. D. S.

SOME GOOD CALADIUMS.

As everyone knows, these plants stand unrivalled for affording leafage of singular beauty. In a dozen plants one may have some dwarf, others of medium height, and the remainder tall, while each will be distinct in colour. Caladiums provide rich, bright, soft, delicate hues, sometimes on one and the same plant, and it is consequently a matter of some difficulty for anyone to provide such an accurate description as will bring before a reader's eyes the plant with perfect clearness. At the same time, many persons will doubtless be glad to know the names of some of the choicest varieties in commerce, and these it is proposed to give.

Where, however, it is desired to grow the plants to such a degree as to approach perfection, it is essential that some considerable amount of care be exercised at all stages of the plants' life, though it is not absolutely necessary to provide them with a special structure. In a stove temperature with atmospheric moisture without saturation the plants produce handsome leaves in a very satisfactory manner, but the display is not so good as when the plants are staged in a mass. For evidence of magnificent growth, superb effect, and diversity of colouration one need not go further than the Royal Exotic Nursery of Messrs. J. Veitch and Sons at Chelsea, where so many plants find such an excellent home. For those now under notice Mr. G. Tivey is responsible, and they are managed in such a way as reflects the highest credit on the grower and the firm he represents.

In looking at the new varieties mention may advantageously be made of those that are now being distributed, eight in number, all of which were raised by the late Mr. C. F. Bause. The set comprises some superb varieties, mostly of medium size, and splendidly adapted for the embellishment of rooms. Sir William Broadbent is a somewhat large leaved form. The colour is green blotched with white, the veins being of a deep carmine shade. White suffused with rose is the colour of Sir Julian Goldsmid. The veins are bright red. The deep green netting on the white ground with the red veins make Duchess of Fife a general favourite, as also is the rosy Lord Derby. Of this variety the veins and reticulations are green. The colour of Marquis of Camden is very bright red, the main veins being blood red and the smaller ones green; adding distinctiveness are the occasional white blotches. The name of Silver Cloud tells its colour, and it is one of the most chaste. Mr. C. J. Pierpont Morgan is a carmine with green netting, while Sir Henry Irving complete the cycle of eight. The ground colour is creamy white, with green margins and yellowish patches; the veins are delicate pink. These are all magnificent.

Succeeding those previously enumerated is a set of three from the same talented raiser, but while those already mentioned are in commerce, this trio will not be ready for distribution until the month of August. Each is in its own particular style superb, and it would be invidious to select one as the best. Let us therefore take them as they appear in the notebook. First comes Lady Mosley, which is deep rose with carmine veins. The margin of green adds great beauty to this variety. Silvery white is the ground colour of Her Majesty, but relief is afforded by the crimson markings in close proximity to the leafstalk and the light green veins. This is of exceptional beauty. Of a peculiar milky whiteness is Leonard Bause. There is a blood-red spot at the base of the leaves, from which spring the carmine veins.

One of the mottoes of this house is to keep abreast of the times, or rather just in front of them, this extending to the Caladiums, as is proved by the fact that another set of eight varieties is now in hand which will be ready to disseminate in the spring of 1897. Very beautiful are the whole of them. Sir Oswald Mosley is perfectly distinct. The ground colour can only be termed purplish crimson with a dark green border; the veins are deep scarlet. St. Frusquin is rosy red with green nettings and red veins; this variety has a green Picotee-like edge. Silver Queen is silvery white, mottled whitish green; the veins and margin light green. A variety with brilliant rose veins, and a ground colour at first suffused with light rose, others with light green, all changing with age to white, reticulated with rose, is named Prince Edward. Duchess of Connaught is light silvery green, with the central area and veins flushed with delicate rose. Exquisite is bright red with a light green margin. Lord Penrhyn has veins with a narrow band on each side of them, brilliant carmine, the interspaces blotched with green and spotted with white. Avilion has a bright crimson ground with deep crimson veins, dark green netting, and a narrow green border.

Besides these such standard sorts as Comte de Germiny, Gaspard Crayer, Mrs. Harry Veitch, Baronne Adolphe de Rothschild, Candidum, Louis A. Van Houtte, and Reine de Danemark are too well known to call for any description here. At the Temple show next Tuesday Messrs. Veitch purpose exhibiting a group of these striking plants, and the writer was informed that all the new varieties mentioned above will be on view, so that readers who cannot go to Chelsea will do well to look out for them there.—SCRUTATOR.

GARDENS ABOUT LONDON.

DOWNSIDE.

TIME was when the mere mention of Downside, Leatherhead, would have brought to the minds of everyone visions of Orchids most rare and most choice, for it was here that Mr. Lee's world-famed collection was located. But according to the song, "Nothing in this World can Last," and certainly the Downside of to-day is far from being the one of even five years, as from the possession of an orchidist of the real school it passed to a horticulturist of the true kind, and who has made his presence felt in many ways since his advent some seven years ago. Since then alterations, and, be it thoroughly understood, improvements have been constantly in progress, while by way of variation the mansion and the estate have both been considerably extended. The gentleman who now owns this residence is Alfred Tate, Esq., erstwhile, as Liverpudlians and many others know, of Woolton; Mr. W. Mease (another familiar name) being the gardener in chief. Each is an enthusiast, the one in his hobby, and the other in his daily avocation; so it may be reasonably expected that the improvements which have been made in the past will be more than maintained in the future.

It would be impossible to particularise all the changes that have taken place, but reference may well be made to a few of them. An entirely new flower garden has been formed, new pleasure grounds and herbaceous borders have been added, the drive has been remodelled, while the vegetable gardens have been greatly enlarged, this at the same time providing more wall space for fruit culture. In one of the extensions farm land was acquired, of which a considerable portion was tacked on to the gardens proper, while the whole was surrounded by broad borders of hardy shrubs and trees. Then some careful planting of forest trees has been carried out, the natural aspect and condition of the ground having governed the kind and the position. These, though not yet of large size, have appreciably enhanced the general beauty of the place, and will eventually make it considerably more valuable. The skill that is displayed and the precautions that have been taken to preserve every iota of Nature's beauty are highly creditable, and might well be studied by others who are proposing changes, for as Downside is now, after all the alterations, it blends and is entirely a part of the surrounding beautiful country.

Visiting Mr. Mease in this year of grace 1896 considerable difficulty would be experienced in deciding what is the chief feature of the place, as everything is so well done. It is probable, however, that the majority of persons would record their vote in favour of the Rose garden, which is now practically completed, and is certainly one of the best equipped and arranged in the country. It must be understood at the outset that Mr. Tate is a rosarian in every sense of the word, and understands Roses and their requirements as well as most specialists. This being the case no expense has been spared in making a home for them, and the results of these labours of love are such as would gladden the hearts and eyes of the Rose amateurs of the country. Originally this garden was a grazing field for cattle, and it was found on removing the turf that, like all the portions of the grounds that had been tested, the chalk was immediately reached, and the fact was grasped that something would have to be done ere Roses would flourish as they were wanted to do. It was decided to remove the turf, and take out 2 feet of this chalk in the position of each bed, and to put in its place some sound loam, in which Roses delight.

Now the plants in each bed are in splendid condition, and it is confidently expected that when the Brockham Rose Society holds its annual show at Downside in July the home display will be magnificent. It will be an ideal place for an exhibition of Roses, for in the tents and out of them there will, weather and other circumstances permitting, be a perfect feast of the queen of flowers. It might be thought by some people that a garden of Rose beds would, at this particular period of the year, be uninteresting. But such persons are not rosarians, for these latter find interest in every bud, every leaf, every stem, and every plant, and it might be added in every green fly. In this particular garden, which we are for the nonce looking at through the glasses of the *Journal of Horticulture*, there are here and there pillars, arches, arbours, and hedges of the strong-growing, free-flowering garden Roses, and these, now covered with the refreshing green leafage, undoubtedly add their quota of beauty to a charming whole. Fortunate will those be to whom fate permits a visit to Downside at show time; may the writer be amongst them.

To speak of kinds and varieties might be deemed unseasonable, so this phase of culture shall be passed over with the assurance that all the very best are grown, and glancing tentatively into the future one might say many of the choicest of them will be seen and appreciated at some of the forthcoming Rose shows, and will, it is hoped and expected, worthily uphold the reputation of Mr. Tate and Mr. Mease as lovers and growers of Roses. Standing in this garden a few days ago one was refreshed by the delicious fragrance of the Wallflowers borne on the breeze from a great mass of Blood Red and Belvoir Castle some distance away. Closer inspection shows plants in a circular bed clothed with large finely coloured flowers, while in close proximity to this are two beds each of *Aubrietia purpurea* and a dwarf yellow *Viola*. The plants of the former have attained to a height of about 9 inches, and it is almost impossible to see any leaves for the tens of thousands of flowers,

while signs of soil are conspicuous only by their absence. The Viola, a yellow one as before stated, is of exceptional merit. The habit is sturdy and very compact, and each plant is flowering with remarkable profusion; but unfortunately there is no name, as it remains as one of the few mementoes of the previous owner.

From this aspect of gardening we turn to the borders, wherein grow apace plants commonly grown and others rarely seen. Hardy trees and shrubs, whether producers of flowers or of beautiful leaves, are very popular, and have been planted with careful discrimination. Bold clumps, borders, or belts of them have been formed about the lawns, and look at all times very beautiful, though never more so than in the spring, when Nature is just awaking, as it were, from her winter sleep. Then we have that delicate tender green that is so charming to all, while the flowers of the lowly Primrose, the modest Violet, the ever-pleasing Snowdrops, and the Daffodils lend beauty in an unpretentious way. Flowering now are *Cytisus scoparius* Andreanus, *C. præcox*, *Pyrus malus floribunda*, Lilacs, Gweldres Roses, Spiræas in variety, *Dielytra spectabilis*, Berberis, and others. Besides these there are many such as Acers, Paulownias, and Copper Beeches, that are cultivated exclusively for the beauty of their leaves. In the herbaceous borders just at present the Poet's Narcissus, superb Polyanthus, splendid Auriculas, and stately Doronicums are doing the honours, while ere long many other plants will be coming into flower for the maintenance of a continued display. These borders are all of recent formation, and will, when the plants become thoroughly established, be even more beautiful than they are at present.

Continuing our peregrinations we pass through an avenue of Laburnums, in which almost all the plants are carrying enormous numbers of their gorgeous racemes of flowers. As we emerge from this we see before us a splendid young Beech, that is growing apace; and learn with surprise that it had during last winter been removed from one end of the gardens to the other. Considering it had been done with the aid of a home-made wooden platform, and pipes as runners, this was a good piece of work, and might reasonably have been expected to result in the death of the tree. The rockery is of limited dimensions, but of exquisite beauty. Only small plants can be grown, and Saxifragas appear to be great favourites, for many of the smaller growing kinds find a happy home. Helianthemums (Rock Roses) also have a place, while Gentians and Edelweiss are creditably represented. Then there are dwarf Wallflowers, Iberis, and other plants utilised for diversified beauty. From the rockery, through a winding path in the grass, on the sides of which the Forget-me-not flourishes, we proceed to the Rose nursery, where are the stocks, the budded plants of last year and the year before, and thence to the gardens devoted to vegetables and fruit.

The gardens in which are grown the vegetables and hardy fruits are enclosed by good brick walls, of which it need hardly be stated the capable gardener takes the fullest advantage. The soil here again, as in the Rose garden, was at one time almost wholly chalk; but this has been carted away and good loam substituted to a depth of quite 2 feet. In this, with manurings, top-dressings, and mulchings, all the crops required appear to thrive in a most satisfactory manner; at least, if those now in use may be taken as a criterion. Each quarter is edged with Box, which is kept very dwarf and compact by seasonable clipping, and as a consequence always presents a neat and tidy appearance. The hardy fruits, such as Apples, Pears, Plums, and Cherries, with the bush kinds, including Gooseberries, Raspberries, Currants, and Strawberries, are all extensively and well represented. The trees are now thickly set with fruit, and the first thinning was about to commence a week ago. This is an aspect of fruit culture which is often neglected, but that it pays is proved by the constancy of the heavy crops that are taken from this Surrey garden. In addition to these trees an orchard is being formed in another portion of the estate.

Turning to the wall trees, we find the same excellent conditions prevail, a south wall covered with Peaches and Nectarines being particularly noticeable for the magnificent examples of culture with which it is occupied. There is a glass coping at the top, at the front of it being moveable blinds for protection. On another wall having the same aspect Vines grow, and annually produce good crops. The rods are trained perpendicularly, and of course abundance of space is left for the thorough maturation of the wood. In other positions are Apricots, Plums, and Cherries, to each of which a suitable position has been allotted. Under glass the Vines are excellent. Several varieties occupy some houses, but Muscat of Alexandria has a separate structure, as also has the useful Lady Downe's. Peaches and Nectarines planted out, Fig trees in pots, and Melons in pits, with such vegetables as Cucumbers, Tomatoes, and the climbing French Beans, have every necessary attention bestowed on them. Of the last named this grower speaks very highly, having found it a heavy cropper and in all respects satisfactory on the table.

In the plant department there are many kinds deserving of more than the passing glance that can be accorded them here, for every plant, flowering or foliage, is grown thoroughly well. Carnations are particular favourites with Mr. Tate, and are very largely grown, as will be understood when it is stated that upwards of 200 plants of Winter Cheer are cultivated. If Messrs. Veitch & Sons will permit a suggestion, it would be that the name is changed to Perpetual Cheer, as it is always

in flower. All the best of the Malmaisons (Mr. Martin R. Smith's) find a space, while others seen are Madame Carle, Mrs. Leopold de Rothschild, with Uriah Pike, which does not here take much credit as a winter bloomer. Chrysanthemums, too, are grown, and considering Mr. Mease's record in the north, and more recently in the south, it is superfluous to add grown well. Of these more will be heard and seen as the autumn comes round. Orchids have a place found for them, and appear to be in excellent health. Of those in flower at present, *Lælia purpurata* and several varieties of *Odontoglossum crispum* are the most charming.

Diminishing space tells that the closure must of necessity be quickly put on these notes, all too brief as they are, to do justice to this beautiful



FIG. 73.—MR. W. MEASE.

home. Paragraphs might yet be written of the proposed changes and additions, and of the magnificent views with which the neighbourhood abounds, but all these must remain for the time being in abeyance. Perhaps there are some gardeners who do not yet know Mr. Mease, and to these, by the aid of the illustration (fig. 73), it is a pleasure to introduce him on paper as a gardener who lives for his work and carries out his many duties to the utmost extent of his great abilities. In conclusion thanks are tendered to Mr. Tate for his kindness in imparting so many interesting details of work done,

being done, and to be done, also to Mr. Mease for the time he so pleasantly bestowed for the benefit of Journal readers.—H. J. WRIGHT.

MR. HORNER'S GARDEN.

AN enjoyable visit to Lowfield was the sequence to an invitation from the Rev F. D. Horner, conveyed in characteristic terms as follows:—"It will be a very great pleasure to see you here for a look round the different plants. The Auriculas are still in considerable bloom and many of the Tulips are open, never so early before. You will also enjoy the Orchids, and other odds and ends about. The Dendrobium Harveyanum named by Reichenbach will have some of its marvellously lovely and unique blooms open. Other Orchids are also very interesting. And do tarry with us for the night; your visit will then be altogether more complete than attempting to come for only the day. . . ."

THE ROUTE AND SCENERY.

Changing for the Midland Railway at Leeds, a two hours further journey through such scenery as the route affords is to the lowland dwellers something of a revelation of the beautiful and grand in Nature. Past the famous ruins of Kirkstall Abbey, onwards up the comparatively narrow, but still beautifully wooded valley of the Aire, ever ascending towards the Yorkshire moorlands, until Hellfield Junction is reached, then onwards across broad and fertile Ribblesdale, the land of immense limestone scars, beautiful waterfalls, noted caves, with their fantastic and wonderful furniture of stalactite and stalagmite; the land of unfathomable pot-holes and swallows, which now and again swallow up the newborn rivers brought forth by the surrounding moors and mountains. Still onwards, past Giggleswick, with its noted ebbing and flowing well, the scars and falls still increasing in altitude until we come abreast on our right of the well known Yorkshire mountains, Wharfedale, Pen-y-gent, Ingleborough, and Grargreth; whilst on our left are the extensive moors dividing Yorkshire and Lancashire, with Pendle's massive shoulder looming largely into view, reminding us of Harrison Ainsworth's "Lancashire Witches"

CLAPHAM JUNCTION AND INGLETON.

Eventually the refrain "Clapham Junction" salutes our ears, but the idea of any similitude to the London "Clapham Junction," through which, it is said, 1500 trains a day pass, is dispelled by the first view from the carriage window. Here we find a small roadside station, planted amidst lovely scenery, and the imposing summit of Ingleborough frowning down upon us. "Change here for Ingleton," which is now becoming well known as a holiday resort to the inhabitants of Leeds, Bradford, and other thickly populated centres of the West Riding and Lancashire. Ingleton is situated at the foot of Ingleborough on the one side and Grargreth on the other, the stupendous Twistleton Scar between, thus forming the gathering ground for the two rivers, the Greta and the Doe, each of them having cut its way through the limestone rocks,

forming deep ravines, through which the water in mighty volumes rushes over a series of waterfalls and succession of deep pools and rapids. Thus, in course of a walk, or what may be more properly described climbing and descending, for three hours up one stream and down the other, the pedestrian will pass through scenery as sublimely romantic and beautiful as can be found anywhere. At Ingleton village the Doe joins the Greta, and under the latter name wends its way for several miles through rich heavily timbered pastures to Burton-in-Lonsdale on its way to join the Lune.

LOWFIELDS.

The drive from the station across this country on a glorious May morning was a treat to be remembered, and to a town dweller in the habit, through the force of circumstances, of breathing a smoke-tainted atmosphere, a drive he would like to repeat as often as possible. A short distance beyond the village of Burton we come to the entrance lodge and gates of Lowfields, a fine display of Auriculas on the window sills of the lodge proclaiming this to be the home of a true florist. The avenue is unique in its way by reason of grand specimen Beeches on the one hand, and magnificent Larches, 100 years old by Mr. Horner's record, on the other. The avenue is flanked by a long plantation, forming a splendid shelter from north and east to both garden and house.

THE FLORIST'S WELCOME.

The rattle of wheels brings Mr. Horner to the front door, not out of the house, please remember, but out of the garden, where he appears to live, except at meal times and sleeping hours. One of his double handshakes, "So glad you've come!" is a welcome of which there can be no doubt of its genuine heartiness. Greetings and inquiries about distant friends being over, we step out on to the front of the house for a general survey.—AZOTA.

(To be continued.)

LONDON'S SPRING FLOWERS.

DULWICH PARK.

DULWICH village is one of the prettiest suburbs of South London and though it lies within easy walking distance of some of the thickest populated districts of Camberwell and Walworth, there is something about it distinctly rural. Perhaps it is those long lines of Chestnuts that cast their shade over the whole roadway; perhaps it is because the speculative builder has dealt mercifully with the place in erecting tasteful villa residences, the fronts of which are now gay with flowers and creepers, instead of those long, monotonous lines of houses, destitute of any attempt at decoration, which tend so much to give even a suburb a townlike appearance, or it may be the presence of the historic College buildings.

All these features tend to make Dulwich interesting, and it is but a few years ago since a large tract of ground, chiefly meadows and pastures, was acquired by the London County Council, the art of the landscape gardener brought to bear on it, and quickly it was transformed into the place of beauty now known as Dulwich Park.

"Come and see the rock plants, which are very gay just now," wrote Mr. W. Bailey, the Superintendent. That was enough; I had seen them before, so had some idea of what they would be like, and as I had just been reading the account of your correspondent's wanderings amongst the world-renowned spring flowers of stately Belvoir, it tended to whet my appetite, and I seized an early opportunity of placing myself within the precincts of London's garden park.

To speak of rock plants naturally brings artistic rockeries forcibly to the mind, and perhaps admirers of the latter would be tempted to criticise the attempts at rockery building as seen at Dulwich; but when we come to think that this was not the end in view, but simply to make a home for the alpine, then we turn our blind eye to the artificial-looking brick ends, and admire in all sincerity the unobtrusive though truly charming little plants which find a home in the crevices. How delightful they looked in the bright May sunshine, and what contrasts, too, the flowers presented! The rich golden glow of *Alyssum saxatile compactum* met the eye at every turning; a little further on were the snow white masses of *Iberis sempervirens*, and rising from moss-like carpets of green verdure were countless starry blossoms of *Saxifraga Wallacei*, with here and there sweet clumps of *Asperula odorata* looked even more modest by the side of their more showy associates.

"I think Snake's Lane is the chief feature," remarked my guide, perhaps a little wearied with my lingering progress. So to Snake's Lane we adjourned. Which side to admire most was the puzzle, one apparently wild, the other cultivated. How charming were those golden masses of Wallflowers of the Belvoir Castle strain, interspersed with Forget-me-nots and Poet's Narciss, with here and there a clump of Wood Hyacinths, *Scilla campanulata* dotted in between. How delightfully shady under those tall Elm trees, which seem to have been dropped there in an anyhow sort of fashion, probably all that is left of a copse; how captivating the clinging growth of the Ivies of various habits as they twirl and twine round the fragments of tree stumps left for the purpose.

Then we turned to the opposite side of the lane, and marked the contrast. Not so showy certainly were the plants, but so modest and retiring that close examination is necessary to find them. Nothing could, in a simple way, be more charming than those thick compact masses of *Saxifraga muscoides purpurea* covering the rocks and stones,

and a little farther on rose the blooms of *Tiarella cordifolia*, or Foam Flower. One could not resist pausing an extra moment to examine more closely the crystal beads that encircle the leaves of *Saxifraga Macnabiana*, while close by a display in itself was formed by the floriferous spikes of *Saxifraga pyramidalis*.

The *Epimediums* were attractive, for, though the flowers were gone, their absence was recompensed by the pleasing *Caladium*-like tints of the foliage. Then, by way of further variety, we paused to admire the bright yellow blossoms of *Geum montanum*, or the purple tint of *Aubrietia Campbellsii*. Speaking of *Aubrietias* reminds me of others seen at Dulwich, amongst which was *Andersoni*, a variety somewhat darker than the one mentioned. What an interesting family are the *Saxifragas*. We passed a mass of the old-fashioned *S. umbrosa*, or London Pride, followed by *decipiens*, *aizoon minor*, *paniculata*, *incurvifolia*, and others, each occupying its little corner and adding a charm peculiarly its own.

Enough has been said about Snakes' Lane to prove the interest of a walk through it, and as I wandered round the various other rockeries I was delighted with the masses of flowers everywhere. A guide is, however, needed on such a mission, or one is apt to miss something hidden away in a sheltered nook. Fortunately Mr. Bailey is acquainted with the whereabouts and habits of the plants under his charge, and led me straight to where several of the herbaceous *Phloxes* were blooming, and amongst them *P. atro-purpurea*, *procumbens*, and *The Bride*, a pretty white variety, were very pleasing. Several alterations have taken place at Dulwich since my last visit; additions have been made to the rockeries, and these gradually becoming covered with suitable plants add further attractions to the Park. There is something of an aristocratic look about the place, too, quite in character with the neighbourhood, and one is struck with the well-kept garden-like aspect from every point.

PECKHAM RYE PARK.

Though not far distant from Dulwich, this Park differs in many ways from the one referred to above. Comparatively new and situated on one side of the famous Rye, there is none of that garden appearance about it which characterises Dulwich, yet there is an air of shaded peacefulness about its winding walks, almost hidden by a canopy of green leaves, that makes it an ideal spot for such broiling afternoons as we have lately experienced.

How cool and pleasant under those tall Elm trees, how delicious the aroma from the massive Hawthorn hedges, wreathed with the white blossoms of scented May, and how sweet the music from a thousand songsters in the branches, and all in a London park, bear in mind, that for a moment I forgot I was within sound of Big Ben. Horticulturally speaking, Peckham Park does not shine like others previously mentioned in this series, it does not even pretend to shine. It boasts of no gorgeous display of bulbous flowers in the spring, no masses of *Pelargoniums*, and the like, in the summer. Geometrical designs of any kind are conspicuous by their absence, and yet the Park is beautiful, simply because it is what it was intended to be—a resting place for the people.

In this respect in particular it differs from any other London park—a pleasing mixture of garden and woodland, the former beautified with Wallflowers, Lilacs, Brooms, Laburnums, and such like, all the result of the gardener's art; the latter simple, wild, and apparently uncared for, except by the best of gardeners—Nature herself—and in its wildness lays its charm, and I venture to say that no artificial display of flowers in London is more appreciated than the forest of wild Parsley, the Bluebells, and Forget-me-nots, or the hedges of Hawthorn. There is no need there for an artificial aviary, the copse forms a natural one, alive with feathered songsters content to remain and add by their presence an additional feature. One hardly expects to hear the Cuckoo in a London park, but Mr. Ashmore, the superintendent, informed me that he is a frequent visitor. A large area of woodland in the centre of the park is not yet in the hands of the County Council, and when that takes place we hope its wild character will not be altered. One could only regret being too late for the *Aconites* and other early spring flowers, which were of course over.

Several years will have to elapse before the more cultivated portion will be seen to the best advantage, as the shrubs are yet small. The mild winter has, however, been favourable, and though wanting rain now they are making capital growth. Mr. Ashmore has done well in keeping up the character of the Park by growing chiefly old-fashioned flowers, such as Irises, Wallflowers, and *Pæonies*, which looked showy in the bright sunshine. The groups of children playing about and adults resting in the shade gave evidence of how greatly this rendezvous is appreciated by the dwellers in the neighbourhood of Peckham Rye.—G. H. H.

WALLFLOWERS AT INGESTRE.

At this season of the year it may not be out of place to say a few words of one of our favourite flowers, as grown in the beautiful gardens at Ingestre. On the north front of the Hall are four large beds planted alternately with Primrose Dame and Covent Garden Blood Red Wallflowers, intermixed with *Myosotis alba* and *dissitiflora*, and these in the distance look one grand mass of flowers. They certainly are as good as anyone may wish to see.

We enter these charming gardens from the eastern side of the Hall, which is known as "The Long Walk," and superb specimens of Wallflowers line the steps leading down this main entrance to the garden, close to which is the grand conservatory, with recesses in the walls also

containing Wallflowers. Again in the kitchen garden two large square beds may be seen with raised centres, which show off the flowers to perfection. In one bed Covent Garden Blood Red forms the centre, edged with Golden Tom Thumb, and in the other Primrose Dame and Blood Red, each intermixed with *Myosotis* and *Arabis*. A short walk across the garden brings us to the centre, where are four square beds. In these are the same varieties as before mentioned. Rarely are Wallflowers seen to such perfection as those at Ingestre at the present time.

Leaving the Wallflowers we enter the vineries, and find even crops, the earliest house showing good bunches of Black Hamburgs and Foster's Seedling; the next is the Muscat house, with fine young rods and looking well. In the other vineries we noticed Black Hamburg, Madresfield Court, Lady Downe's, Gros Maroc, and Trebbiano, which ought to give a good account of themselves in the coming season. The Peach and Fig houses are likewise excellent, the latter containing an enormous crop. Crossing the garden to the Tomato house we see an extremely good show of fine ripe fruit, chiefly Frogmore Selected, Lady Bird, and Ham Green Favourite. The Strawberries must not be forgotten. The shelves in the houses are laden with pots for succession, and some ripe fruit of Noble caught my eye.

Visiting the Palm house we find before us large *Kentias* which are grown for decorative purposes, also some good *Arca lutescens* and several other beautiful plants too numerous to mention. Ferns, Orchids, Crotons, and Pines all find a place in the houses. Ingestre is noted for Melons, and we noticed some fine ripe fruit as we passed through the houses. Cucumbers are grown to perfection, amongst which Allen's Favourite is conspicuous by its length. Going back to the conservatory, we are again among Palms. At each end of the conservatory is some rockwork forming arches, on which various plants are growing.

The paths are kept with scrupulous care, and altogether the visitor is struck with the fine appearance of the Hall and its charming surroundings. We trust these beautiful grounds and gardens will still retain their high reputation, which is mainly owing to the much respected gardener, Mr. Gilman.—OBSERVER.

HIPPEASTRUMS AT AIGBURTH.

In a short preface announcing their exhibition of *Amaryllis* Messrs. R. P. Ker & Sons give a brief note on the early history of the *Amaryllis*, in which they state that the original species, *Amaryllis aulicum*, equestre, psittacinum, and Reginæ, were introduced to gardens quite a century ago. Numerous beautiful varieties were obtained, which figure largely in the garden literature of the first half of this century; but these, from a florist's point of view, were all defective, and their culture declined until the advent some twenty years ago of two new species, *Amaryllis Leopoldi* and *pardina* from the valleys of the Peruvian Andes. These were so different from the existing sorts that growers hybridised them with the finest of the old varieties, and it speedily became apparent that they would prove of great potency in the further improvement of these plants. This hope has been fulfilled to a large extent, and varieties richer and more varied in colour, of fine form and vigorous growth, have been produced.

Impressed with the beauty of these newer varieties and their growing popularity, and believing that still further progress could be made in colour, form, and freedom of flowering, Messrs. R. P. Ker & Sons a few years since purchased the choicest varieties. These, under the careful and painstaking manager, Mr. Hugh Ranger, have been cross-fertilised with the utmost care and discrimination so as to produce perfect flowers. That they have succeeded is beyond doubt, and whatever objection some people may have as to the usefulness of the *Amaryllis* must be entirely dispelled when such an exhibition can be seen as the one that has for the past two or three months been attracting visitors from all parts of the kingdom to Messrs. Ker & Sons' Aigburth Nurseries.

So large has become the trade in them that several large span-roofed houses containing many thousands are now devoted to them. In the flowering house one might well call them the most gorgeous and beautiful of all bulbous plants, for almost every shade of colour was to be seen, many carrying two scapes to a bulb, some having seven flowers on a scape. Many named forms were to be seen, but I contented myself with taking down some of the most beautiful from the collection. Amongst the best were:—Darks and Sells.—Sultan, The Moor, Black Prince, and Terentian. Scarlet and Orange Scarlet.—Scarlet King, Ladas, and Cynthia. Light Scarlet and Green Throat.—Puritan, The Warrior, and Lothair. Light Ground, Suffused with Rosy Salmon.—Aspasia, Melpomene, and Daphne. Pure White Ground, Red Markings.—The Queen, Fairy Queen, and Midas. Each year sees a closer approach to pure white, and amongst flowers of different types two stood almost ideals—viz., album and albescens. Probably no two out of the collection pleased me more than *Marmorata*, quite a new break in colour, being deep salmon slightly marbled white; and *Rosy Belle*, pure white ground with lively rose markings. Messrs. Ker & Sons are to be highly congratulated on so excellent a collection.

To those about commencing their culture a brief note may be of assistance. After flowering place them, if available, in a warm house, or the warmest part of a greenhouse. Water freely until the end of August, when water should be gradually withheld and the bulbs allowed to go to rest. By the beginning of October the pots may be laid on their sides under the greenhouse stage. If they are required to bloom in December or January—and that they will do if properly cared for—they should be placed in a temperature of 60° or 65° about the middle of November, but if not required so early they may be started about the

middle of January, 50° to 55° suiting them well; water sparingly at first. The best time to pot the bulbs is just before starting them, the compost two-thirds good loam, one-third leaf mould, and a little sand will suit them admirably.—A VISITOR.

ROYAL BOTANIC SOCIETY.

MAY 13TH.

BEAUTIFUL weather prevailed on the event of the summer show in Regent's Park on Wednesday, but the exhibition was disappointing owing to the extreme scarcity of competitors. The show was practically made up of nurserymen's miscellaneous exhibits, and it is somewhat remarkable that though money prizes were offered in twenty-four classes, three-fourths of these were entirely unrepresented, and in no class was there more than one exhibit. This condition of affairs, to say the least of it, is most unsatisfactory, especially when we remember the magnificent exhibitions that used to be held in Regent's Park. The exhibition, as in former years, was held in a large marquee erected for the purpose, the groups of plants and flowers being arranged on the sloping banks, amongst which the winding pathways intersect, making it an almost ideal spot for a flower show. Much less space, however, would have sufficed for the exhibits present, as the appearance was not improved by the attempts made to fill up space by spreading them out. We hope there was not also such a great falling off amongst the visitors, or it will be still more discouraging to the Society. As already stated, the miscellaneous exhibits were the only feature, and amongst these were several excellent collections of Roses, both plants in pots and cut blooms being excellently shown. Hardy flowers, too, were well represented, and a special word of praise is merited to Messrs. T. Rivers & Son for a fine collection of early forced Nectarines in pots. An account of the principal exhibits is herewith appended.

Mr. Geo. Cragg, gardener to W. C. Walker, Esq., Winchmore Hill, was awarded first prize for twelve exotic Orchids, showing a well flowered plant of *Lælia purpurata*, with *Cattleyas* *Trianae* and *Skinneri*, *Odontoglossums* *crispum* and *Halli*, and *Cymbidium* *Lowianum*. Mr. T. S. Ware was first with twelve tuberous Begonias, showing well grown specimens of *Bexley Gem*, *Bexley White*, *Devonia*, *Princess May*, *Bridesmaid*, *Goliath*, and others. The same exhibitor was also awarded first prize for a group of herbaceous plants, which was composed of fine plants of *Lilium Harrisii*, with *Irises*, *Saxifragas*, *Spiræas*, *Aubrietias*, *Phloxes*, *Ranunculus*, and others of the hardy section. As these were the only exhibitors in the above classes no second prizes could be awarded.

Mr. W. Rumsey was first with a group of Roses, showing good specimens of *Crimson Rambler*, *Mrs. Ormsey*, *Cleopatra*, *Magna Charta*, *Madame Hoste*, and *Madame Victor Verdier*. Mr. R. Scott, gardener to Miss Foster, Regent's Park, showed six fine Azaleas, obtaining first prize. Amongst them were good specimens of *Ceres*, *Charmer*, and *Stella*. Mr. R. Scott was also awarded a second prize for a group of Azaleas, the plants being small but fairly well flowered.

In the miscellaneous section Mr. T. S. Ware, Tottenham, staged a group of hardy flowers, comprised of *Saxifraga pyramidalis*, *Irises*, *Cypripediums*, *Spiræas*, and *Aubrietias*. A small but varied collection of plants came from Messrs. Jas. Veitch & Sons, Chelsea. Amongst others were noticed *Gloxinias*, *Begonias*, and *Caladiums* in variety, with a few Orchids, consisting of *Dendrobium obscurum* and *Cypripediums* in variety, and several plants of *Phyllocactus* and *Calla Elliottiana*. Mr. P. Perry, gardener to J. C. Tasker, Esq., Brentwood, sent fine collection of *Cannas* displaying a pleasing variety in colour. The most conspicuous varieties were *Madame Crozy*, *Progression*, *Cheshunt Yellow*, *Victor Hugo*, *Mrs. Tasker*, and *Miss T. Hill*.

Messrs. Barr & Son, Covent Garden, made a large show with hardy flowers, showing *Tulips* in great variety, with *Pæonies*, *Irises*, *Scillas*, and other hardy flowers. Mr. Sturt, gardener to N. L. Cohen, Esq., Eaglefield Green, showed a collection of well-flowered *Calceolarias*. The plants were dwarf and sturdy, with blooms rich and diversified in colour. A superb collection of cut Roses came from Mr. G. Mount, Canterbury. Amongst others were noticed perfect flowers of *Mrs. John Laing*, *Niphetos*, *Captain Hayward*, *La France*, *Ulrich Branner*, and *Prince Arthur*.

Messrs. Kelway, Langport, made a large and effective show with *Pyrethrums*, *Pæonies*, single and double, in great variety, *Cannas*, *Irises*, and *Gladioli*. Included amongst the *Pæonies* were several very pleasing varieties. A very fine collection of Roses came from Messrs. W. Paul & Son, Waltham Cross, comprising both pot plants and cut blooms. Amongst the former were fine examples of *Dr. Andry*, *La France*, *White Lady*, *Duke of York*, *Salamander*, *Duke of Edinburgh*, *Victor Verdier*, and *Crimson Queen*. Amongst the cut blooms *La France*, *Maréchal Niel*, and *Crown Prince* were the most conspicuous. Messrs. J. Waterer & Sons, Bagshot, sent a collection of *Rhododendrons*, comprising *John Waterer*, *Marchioness of Lansdowne*, *Mrs. John Penn*, *Kate Waterer*, *Princess of Wales*, *Queen*, *Mrs. Tritton*, and others.

Mr. Scott, Regent's Park, set up a group of plants consisting of Azaleas, Orchids, *Marguerites*, *Caladiums*, and Ferns, the whole making a good effect. Mr. A. Smith, High Wycombe, sent a collection of cut Roses. Several plants of *Daphne cneorum* major came from Mr. A. Knowles, Woking. Messrs. T. Rivers & Son, Sawbridgeworth, sent a fine group of Nectarines in pots of a new forcing variety *Cardinal*, the fruits of which are large and highly coloured. The plants, too, looked a picture of good health, and in every way worthy of this well-known firm.

NYCTERINIA SELAGINOIDES.

ONE of the prettiest dwarf annuals suitable for edging large beds is the subject of this brief note. The plant is by no means a novelty, but, like so many old favourites that have been partially displaced by more modern rivals, it is seldom seen in gardens except where simple flowers are cherished. When seen its compactness of habit and abundance of



FIG. 74.—NYCTERINIA SELAGINOIDES.

pretty white and rose flowers always secure admiration. These at a glance resemble some of the dwarf *Silenes* and *Saponarias*: It succeeds in almost any soil that is not too heavy or wet, and, as above stated, it is particularly well adapted for an edging to a bed of miscellaneous plants. *Nycteria selaginoides* (fig. 74) may be readily raised from seed, which is cheap.—S. W.



FRUIT FORCING.

Peaches and Nectarines.—*Trees Started at the New Year.*—The very early varieties, such as *Alexander* and *Early Louise* Peaches, *Advance* and *Early Rivers* Nectarines, are ripening, or ripe, and must not be syringed, otherwise the fruit will crack, or acquire a rusty appearance and a musty flavour. Second early sorts, such as *Hale's Early*, *A. Bec*, and *Dymond* Peaches, with *Goldoni*, *Lord Napier* and *Darwin* Nectarines, will shortly commence ripening, when syringing the trees must cease; but moisture should be maintained by damping the paths and borders in the morning and afternoon, and due supplies of water given at the roots. Midseason kinds, such as *Royal George*, *Stirling Castle*, *Crimson Galande*, and *Grosse Mignonne* Peaches, *Stanwick Elruge*, and *Humboldt* Nectarines, will have completed the stoning process and be taking the last swelling, it not being advisable to subject them to a higher temperature until that is insured than 60° to 65° by artificial means, commencing to ventilate at 65°, and not allowing 70° to be exceeded without full ventilation. Tie in the shoots as they advance, removing superfluous growths. Allow one fruit to each square foot of trellis covered by the trees, which will be one, or at most two to every shoot of last year. After stoning maintain a good moisture in the house, and water the inside border copiously, mulching the surface with about 2 inches of short spent manure. Unless it is desired to accelerate the ripening, continue 60° to 65° as the night temperature, and 65° by day artificially by day in dull weather, and 75° with sun heat, closing at the latter with plenty of moisture in the house.

Trees Started in February.—The fruits of these are now commencing stoning, and should have the number reduced, leaving two on strong shoots,

but one will be sufficient on the weaker. Thin the shoots where crowded. The temperature by artificial means should be kept at 55° to 60° at night, and 60° to 65° by day artificially, ventilating from 65°, and fully between 70° and 75°.

Trees Started in March.—With the fruit swelling attention must be given to thinning, and as it can now be seen which fruits have been properly fertilised, thin them to two or three on strong shoots, and proportionately less on weaker growths. Afford nourishing food to weakly trees, either as top-dressing or in liquid form, but vigorous trees being prone to cast the fruit should have phosphatic nourishment or water only. Remove all superfluous shoots, the remaining growths being trained to the trellis as they advance.

Late Houses.—The crops in these and unheated houses are abundant. A moderate syringing on fine mornings is a great aid in the matter of cleanliness and maintaining a genial condition of the atmosphere, but in unheated houses there must be no attempt at an afternoon syringing for the present, and no sprinkling practised likely to cause a moist atmosphere at night. Ventilate at 50°, not allowing an advance to 65° without full ventilation, and close at 50°, or before if there is a prospect of frost at night. If water be necessary, apply it sufficiently early in the day to allow of the surface becoming fairly dry before closing time.

Pines.—A moderately high temperature and a moist atmosphere are essential to plants with fruit in an advanced condition. Large and well finished fruits are only to be obtained by close attention to details. Watering must be attended to, the plants having heat at the roots from hot-water pipes needing more than those having the heat furnished by fermenting material. Admit air at the top of the house at 80°, and maintain the temperature through the day at 80° to 90°, closing at 85°, but unless it be desirable to enlarge the crowns do not quite close the house. Fire heat must be employed to prevent the temperature falling below 70° at night, and to raise it to 75° in the day, the bottom heat being kept at 80° to 90°, as with this well sustained a few degrees variation in the atmosphere is not of material importance. Syringe the plants and house two or three times a week according to the weather.

Cherry House.—The Cherries are ripening rapidly. The fruit should be kept dry, but the border must not lack moisture, damping the paths and borders with the syringe, and air being admitted constantly, there will be no condensation. Tie in the extension and successional shoots as they lengthen, and stop those not required for training at the fifth leaf. Black aphides can be kept under by dipping and rubbing the shoots in tobacco water. Ventilate freely on all favourable occasions, and when the external conditions are unfavourable recourse must be had to the heating apparatus to insure a circulation of air. Netting will be necessary over the ventilators to prevent birds attacking the Cherries.

Cucumbers.—If aphides appear fumigate on a calm evening, and repeat early the following morning, having the foliage dry, but the floors well damped, especially if there be any white fly. For thrips tobacco fumigation is effective, but for mealy bug and red spider vaporisation with nicotine is necessary. If mildew appear, dust the plants with flowers of sulphur. Take care that the plants do not suffer through insufficient supplies of water, applying it at the same temperature as the bed. Remove plants as they become unprofitable, and after thoroughly cleansing the house put in fresh soil and young plants without delay. Assist young plants which show signs of weakness by removing the staminate flowers and the first fruits, stopping the growth at every third or fourth joint, removing all weakly and surplus shoots. Shading will be necessary for an hour or two when the sun is hot, but only to prevent flagging. Little or no fire heat will be required by day, shutting the valves at about 8 A.M., and opening them again at about 5 P.M. This answers on bright days, but during dull weather sufficient warmth must be maintained in the pipes to insure a night temperature of 65°, and 70° to 75° by day. Syringe the plants moderately in the afternoon, at closing time, or on fine days between 3 and 4 P.M., keeping a good moisture by damping the floors.

Seed may be sown for raising plants to occupy pits and frames. A fair bottom heat should be secured by using the least decomposed material from exhausted hotbeds, which, with about a fourth of fresh material, will afford all the bottom heat now required. The nights lately have been cold, in which case close pits and frames as early in the afternoon as is safe, the temperature rising to 90° to 95°, or even 100°, and afford good night coverings. See that a bottom heat of 80° to 90° is maintained by duly renewing the linings.

Strawberries in Pots.—When moisture is lacking at the roots of these plants and the sun is powerful, the fruits are apt to have the skin dried, and they do not swell afterwards in a satisfactory manner. Examine the plants twice a day and in bright weather three times, in no case supplying water where not required or withholding it when necessary. This and due supplies of liquid manure with a genial condition of the atmosphere is essential to insure good fruit; but after the fruit commences ripening a rather drier condition of the atmosphere is desirable, also lessened supplies of water at the roots. Admit air freely when the weather is favourable. Fumigate if there be the least traces of aphides, but avoid doing so whilst the plants are in flower.

THE FLOWER GARDEN.

Clearing Flower Beds.—Spring flowering plants have been particularly effective this season, and the majority will be past their best soon enough to admit of the beds being properly and early prepared for their summer occupants. There ought to be no undue delay in

clearing off Wallflowers, Forget-me-nots, Polyanthuses, and a variety of other plants that are rapidly impoverishing the ground, and if it can be spared dig in a quantity of well-decayed leaves, turf trimmings, and vegetable matter generally, passing this through screens or coarse sieves prior to using it. Strong manure is not suitable for flower beds, but something that will both slightly enrich the soil and retain moisture is much needed in most flower gardens, especially if spring flowering plants have been in possession all the winter.

Auriculas, Primulas, and Polyanthuses.—These and a few other spring bedding plants ought to be taken good care of. If left undisturbed till just when the beds have to be refilled they are liable to suffer from neglect. Those named, also Daisies, Aubrietia, Arabis, and Forget-me-nots, ought to be at once pulled to pieces and replanted in nursery beds, giving the preference to cool positions, notably borders at the foot of north walls, fences, and hedges. Give them the benefit of well-decayed manure, and leaf soil, freely mixed with ordinary garden soil, and replant firmly, afterwards watering and mulching with short manure, leaf soil, or even grass from the mowing machine. Slips or cuttings of choice Wallflowers, Alyssum, Myosotises, and Iberis, ought to be inserted in hand-lights arranged in cool positions, using gritty loamy soil, and shading from what sunshine reaches the glass.

Bulbous-rooted Plants.—If Crocuses, Snowdrops, and Scillas were planted near the edges and deeply these may be left where they are with every prospect of their proving showy next spring. In mixed borders Hyacinths and Tulips may also be left where they are, most of them flowering again next spring; but those in beds ought to be lifted, laid in elsewhere to ripen, or planted at once in mixed borders or beds. Daffodils generally need not be moved and divided oftener than once in every three years. If they must be moved it ought not to be done before the tops are quite died down.

Commencing Bedding-out.—Where there is much summer bedding to do an early start should be made, added to which it is of importance that some kinds of plants be well established in their flowering quarters before the hot days of June are with us. Violas ought particularly to be planted early, and these hardy showy plants should have the benefit of a deeply dug, freely manured site, poverty and drought at the roots meaning an early failure from mildew. Shrubby Calceolarias will also stand what frosts we shall experience during the next few weeks, and should be planted at once. The same remarks apply to Pentstemons, another very effective class of bedding plants. In each and every case give the plants a good watering before moving, and another after carefully transplanting with a good ball of soil about the roots. Spaces to be filled in with more tender plants ought to be lined out, and then no mistake will be made. During dull, showery weather all hardy edging plants should be lifted, pulled to pieces, and replanted in fresh sites. Shade roughly from bright sunshine and keep well supplied with water.

Hardening Tender Plants.—Some of the more tender plants, notably Heliotropes, Coleuses, Iresines, and Alternantheras, if too suddenly exposed to all weathers are liable to receive a severe check from which they do not quickly recover. During the process of hardening cover with glazed lights if possible during cold nights, and also when heavy rains are imminent. The second week in June is quite early enough to bed these out.

Late Propagation.—If there is any likelihood of more Coleuses, Iresines, and Alternantheras being wanted than are already rooted, it is not yet too late to propagate more. Put in soft young tops in a brisk heat, and duly shade. They will strike root in three or four days, and attain a serviceable size in a fortnight.

THE BEE-KEEPER.

SIZE OF HIVES.

HIVES having less comb surface (double) than 4212 superficial inches are too small to expect a full yield of honey. Some people insist on having small hives for poor districts, but surely, whether much honey is to be had or not, strong hives carry in the most. To meet the exigencies of both cases the prudent bee-keeper will work up his hives in such a manner as to have the greatest strength of bees at the proper time.

According to my experience no artificial feeding does the slightest good, unless in neglected cases, till the end of May, after which it is different. Previous to that bees were intent on raising brood, and would continue doing so provided the weather was fine; but when the weather turns unfavourable, as it often does in my Scottish home during May and a part of June, brood drawing and egg eating take place even although the hives have sufficient stores. Therefore, to keep up the strength of hives and prevent the loss of brood, feed every hive with from 2 to 4 ozs. sugar daily with the tin scoops from beneath. I have fed none yet, my hives being mostly first-class, and carried in a good deal of honey and pollen during the first week of May.

Till the 2nd of May the weather was wintry, but a reaction has set in, and the temperature gradually rose from 40° to 55°; but the air is dry with easterly winds, and bees are not getting much

honey. I intend to feed, as I have advised, until honey is plentiful. The coverings of the tops of my hives will not be disturbed until supers are put on. When queens and bees are as they should be hives are full to overflowing, and in all cases where they do not come up to the expected strength will, at the first opportunity, introduce a youthful queen. I am of the opinion that timely room will not prevent swarming. There is a bee law controlling that, and over which man has no control.

I recently heard from a correspondent, to whom I sold hives about twelve or fifteen years ago, asking me to supply a friend of his with a Lanarkshire storifying hive. I informed him I was not sending out hives, but if his friend would visit me I would sell him either a stocked or an unstocked hive. The distance was, however, apparently too great, and I was asked why I would not send a hive, considering he was so well pleased with his, and what was wrong with them? My reply was that they had no fault, but people had been so much educated to defective hives, and had condemned the Lanarkshire divisional hive, while my experience showed that in some years the honey from them was much superior to that taken from broad hives. To this last letter came a reply, telling me to send a hive, and that I was perfectly right about the quality of the honey, for his employer had used all their own honey, and had to get some from the dairyman; and although the bees gathered their honey from the same fields, and were manipulated in the same manner, that which was supplied by the latter was watery and insipid, his hives being of the broad type.

I have repeatedly stated why honey from narrow storified hives was superior to that from oblong hives, but the above testimony is valuable and confirmed my experience. In addition to the quality and quantity of honey from storified hives, there is always the advantage of taking honey without loss or waste of comb. The narrow and high hive is the only form which may be termed economical, for if there is no loss in comb neither is there any undue loss of heat during winter or spring, which goes a long way in preserving bees in a perfect state of health, while breeding goes on uninterruptedly during the whole season.—A LANARKSHIRE BEE-KEEPER.

PRODUCTION OF RUN HONEY.

To obtain a perfect sample of run or extracted honey is the ambition of bee-keepers, and as it is in greater demand than honey in the comb it is much more extensively produced throughout the country. Although it does not command as high a price as well-finished sections of comb honey, a heavier weight of run honey per hive may be obtained, which will make up for the extra price of sections.

But to obtain honey of the best quality the storifying system in some form or the other must be practised, and the best means towards the desired end that I have found of obtaining both bulk and quality during the short seasons usually experienced in this country is to depend chiefly on the doubling system, either by using shallow frames, now so much used by so many bee-keepers, or the full-sized standard frame; from the latter I obtain the bulk of my honey. By this means a good sample of honey will be obtained from supers which are clear of brood, and after the honey has been extracted from them may be returned to the hive and again filled by the bees.

By working on this system the advantage of having all frames and hives of the same size and interchangeable one with the other will at once be seen and appreciated by those who are responsible for the practical and successful management of bees in various parts of the country. Doubling should not be attempted until the majority of stocks are fairly strong in bees, as even in the best managed apiaries there will always be some stocks that have a greater number of bees and are much stronger than others.

About three weeks before the commencement of the honey flow select one of the strongest stocks that is headed by a young fertile queen bred the previous year. From this stock take out three or four of the centre frames that are full of brood with all the adhering bees, but care must be taken that the queen is not on the combs to be removed, and replace with empty combs or full sheets of foundation. Place a sheet of queen excluder zinc over the top of the frame. Put a second hive the same size on the top of the latter, then go to another hive, for preference one whose colony is headed by a queen that is two years old, remove the frames carefully until the queen is found. The frame with the adhering bees and queen should be placed in a temporary hive or box on one side for a time, afterwards return to the hive and take out as many frames and bees as are required to fill the top storey of the hive first operated on. The frames should be placed alternately with those taken from the body of hive, and no fighting will take place.

If there are not sufficient frames of brood, or the hive be of extra strength, part of the space in the top storey may be filled with

empty clean combs that have been used for the purpose in previous years, but not with comb foundation, as it would be too tender for extracting purposes, and be liable to break down in the extractor. Should all the stocks be extra strong in bees, one colony will have sufficient bees and brood to strengthen two stocks for honey production. They should always be covered up warm, and not be disturbed for a few days.

The hive containing a double set of combs will be full to overflowing with bees by the fact of the brood hatching above and below, the queen being confined in the bottom hive by means of the queen excluder zinc, and in three weeks the whole of the brood in the top storey will have hatched out. This immense colony will quickly fill with honey the emptied combs of the upper storey, and as soon as sealed over will be emptied by the extractor and returned to be refilled. These strong colonies require care in their management, but with plenty of bottom ventilation and shading from the bright sunshine will not swarm.

Returning to the stock which has been deprived of the majority of its combs and bees, the comb containing the queen and adhering bees should be placed in the hive again, and four or five empty combs or frames of foundation should be given them, placing the frame of brood in the centre of other frames, and others as required, a few of the old bees will return to their old stand. These weakened colonies are excellent for rearing young queens.

By working on the above lines a much larger quantity of honey may be obtained than from any other system that I have yet tried.

BEES AND TOMATOES.

THE experiment that was tried at the Cornell Horticultural Station of placing a hive of bees in a house filled with Tomato plants ended, as may have been expected, in failure, as bees never work on the Tomato blossoms, although they contain a plentiful supply of pollen. I am inclined to think that the further the bees can keep from the Tomato plants the better they are pleased, as the perfume from them is not pleasant. No wonder they made frequent efforts to escape from the house. It is now an exploded idea that it is necessary to place a hive of bees in early Peach houses, which was a common practice a few years ago, to the great detriment of the bees, as, although they work freely on the Peach blossoms, they do not like confinement, and will make frequent efforts to escape, resulting in the loss of many bees. As they are so useful in fertilising the flowers of our hardy fruits it shows the danger there is in spraying the trees with arsenical poisons whilst in bloom, doing damage to the blossoms as well as the industrious busy working bee.—AN ENGLISH BEE-KEEPER.

BEES IN DEVON.

HAVING read with much interest the notes on bees in the *Journal of Horticulture* for some time past, I thought some of the readers may like to know how bees are doing in Devon. I have all my hives supered except two or three I want to swarm, and I have just taken off a splendidly filled section (May 4th), and have several more ready in the same hive. This is nearly ten days earlier than I have ever taken any before.—A. GODSLAND.



•• All correspondence should be directed either to "THE EDITOR" or to "THE PUBLISHER." Letters addressed to Dr. Hogg or members of the staff often remain unopened unavoidably. We request that no one will write privately to any of our correspondents, as doing so subjects them to unjustifiable trouble and expense.

Correspondents should not mix up on the same sheet questions relating to Gardening and those on Bee subjects, and should never send more than two or three questions at once. All articles intended for insertion should be written on one side of the paper only. We cannot reply to questions through the post, and we do not undertake to return rejected communications.

White Bedding "Pansy" (J. G.).—The flowers received can scarcely be called Pansies, or at least they are not so large as some of the Violas. They are very good, but whether the variety equals or excels other white Violas in floriferousness over a long period can only be determined by comparison. If you like to send a dozen plants we will have them tested.

Rainfall (Wilts).—The newspaper paragraph you send contains an obvious printer's error. No one can understand what was intended to be conveyed, though it is possible the amount registered was 0.41 inch, or something less than half an inch of rain.

Tomato Culture (Reader).—Thousands of readers have found Mr. Iggulden's treatise satisfactory and useful. We fail to see how it can be otherwise than reliable, seeing that it is founded on many years of successful practice, during which various difficulties have naturally been encountered.

Improving Vines (Gardener).—You have proceeded generally on correct lines. The flavour of the fruit could not possibly be satisfactory under the conditions you describe, nor the Vines healthy. Take care that the drain along the front of the border is kept free from obstructions, that the border is kept moist on the surface and all through by a mulching applied now of 2 or 3 inches of lumpy manure for the encouragement of fibrous roots, and that the main leaves of the Vines are not crushed and crowded together, but so disposed that the light can act directly on their surfaces, then if they are kept free from insects the Vines will improve, but do not overcrop them this year.

Tuberous Begonias for Pots (J. E. O.).—As your tubers are only just starting into growth they will need no artificial heat. You may pot them according to their size in clean, well-drained pots, using a compost of decayed turfy loam, three parts; decomposed manure, one part; and sweet leaf soil, one part, adding a liberal quantity of silver sand, and thoroughly mixing the whole together. Abundance of light, but shade from strong sunshine, is essential throughout the growing period. They will succeed best in the cool greenhouse, ventilating freely when in active growth, and affording adequate supplies of moisture. The smaller tubers may need repotting when the first pots are filled with roots, but the largest will only require once potting.

Aldborough Anemones (A. B.).—Writing in the *Journal of Horticulture* some time ago, Mr. W. Allan, Gunton Park, Norwich, said:—"The Aldborough Anemone first flowered in the late Rev. J. G. Nelson's garden at Aldborough. The bulb was sent to him by a Mr. Poë, a Greek botanist, and I well remember walking into his garden one morning and finding him admiring the first flower that had opened. The flowers vary considerably in character, some having pointed petals while others are quite round. After a favourable winter I do not know a plant that will give so early and brilliant a display of bloom for so long a time. For quite three months it may be had in gorgeous magnificence. Bulbs should be planted in August and allowed to remain in the same borders from two to three years. No other plant should be planted among them to shade the bulbs in the summer. I devote a border in the kitchen garden to them, and plant in rows 15 inches asunder."

Procuring Rape Dust (T. G.).—Rape dust is not usually kept in stock by horticultural sundriesmen, but it is sold by agricultural manure manufacturers or dealers, of which you will no doubt have one or more in or about Belfast, and though they do not generally supply it in smaller quantities than 1 ton, they are pleased to oblige anyone with a small amount on it being stated to them that it is required for a special purpose. If you were to ask an horticultural sundriesman he would gladly procure both the rape dust, kainit, and superphosphate for you. If you prefer to order direct you may do so to the Acme Chemical Company, Limited (which has been advertised in our columns), Carlton Street, Bolton, Lancashire, or Tonbridge, Kent, "Homeo," or East Indian rapemeal, being sold at 6s. per cwt. If you wish to do things as cheaply as possible you may sow the border at once with Mustard, and allow it to grow until coming into flower, then trample it down and cover lightly with soil, or preferably, turn the Mustard crop under lightly, if it can be done without injuring the Vine roots. But you seem to wish flowers on the border, therefore the rape dust, kainit, and superphosphate were advised for killing the wireworm and profiting the Vines and plants.

Vine Leaves Eaten and Warded (Perplexed).—1, The leaves of Alicante are eaten by some caterpillar, but there was none in the leaves or in the web-like covering where the creature had recently been seated. Probably it had been captured and destroyed by some bird, the common wren being a frequenter of houses, and unostentatiously clears off many small caterpillars. The small flies from the cow manure are perfectly innocent of the injury to the foliage. Look the leaves over carefully, and you may probably find a small caterpillar in the partly folded-up leaves. It is a very active creature, moves either backwards or forwards with great rapidity, and lets itself down to the ground by a silken thread when disturbed. If you have reason to attribute the damage to night prowlers examine the Vine after dark with a lantern, proceeding cautiously, as any weevils there may be will be easily disturbed, and falling on the ground, where they feign death, are not easily seen, hence a white sheet should be placed beneath the Vine in the daytime so as to facilitate capture at night. 2, The leaf of Gros Maroc is warted, but not by the Vine mite, as there are no apertures in the warts or growth of hairs, as is the case when the leaves are infested by mites. The warting is a consequence of cell-growth, in result of some chill to the under side of the leaf, and usually arises from admitting air rather freely after the atmosphere has become warm and moist through the action of the sun. It is not unusual for only one, and in some cases only part of a Vine, to become warted, the other Vines in the house not being affected. Beyond appearance it is not particularly injurious, but it interferes with the elaborative power of the leaves, and sometimes hastens their maturity or premature fall. It can only be avoided by judicious ventilation, and not always by that, as a sudden gust of cold air will produce it, especially during the prevalence of cold easterly currents in spring.

Tomato Plant Diseased (Q. R.).—The plant is attacked by the "drooping" disease, "black stripe," or "sleepy" disease fungus (*Fusarium solani* or *lycopersici*), which enters the stem of the plant by the roots (in this case the attack being from the radicle, and appears to have been carried over in the seed), and ascends the stem, cutting off ultimately the supply of sap from the roots, or so diminishing it as to cause the younger parts of the plant to droop, turn black, and wither, the whole plant finally collapsing. The disease appears on the stem or fruit as a dark or black stripe, and from these parts are produced the conidial stage of the parasite; and from the mycelial hyphæ the resting spores are produced in the stem, and even in the integument of the seeds, such seeds having a discoloured appearance. There is no remedy for diseased plants, as the fungus is endophytic in its operations—that is, growing inside the stem—it cannot be reached by external applications. If you cut a stem through you will readily see the brown discolouration round the pith, and if you make a minute vertical section of such tissue may observe the mycelial hyphæ traversing the inter-cellular spaces of the woody and cambial cells, and even the knob-like formation of the resting spores in the more advanced stage of the disease. Quicklime is the best application that can be made to the soil, as it acts directly on the parasite there, and indirectly by entering it as nitrate of lime. On the plant itself you may use "Fostite," which, both by the lime and the sulphate of copper, acts as a preventive of the disease.

Increasing Herbaceous Phloxes (C. G. M.).—The present is a good time for the propagation of these Phloxes, and a good place in which to root the cuttings is a manure frame. If freely supplied with water the cuttings will emit roots in a fortnight or three weeks, when the plants may be potted singly, and after having fairly rooted into the new soil may be transferred to a cold frame, and eventually planted out. The most suitable cuttings which it is possible to have are those young shoots, which at this season are being produced in quantity. Select these when 3 or 4 inches long, and insert in sandy well drained soil, either in pots or boxes. The cuttings of these Phloxes need so little preparation that they may be inserted almost as removed from the stock plant, for they root freely not only from the joint but up the stem between the joints, so that if the lower are removed the operator will have done all that is requisite. They thoroughly enjoy generous treatment, and if they have abundance of water during dry weather the result will be a rich and varied display in the coming autumn of their massive heads of flowers. Like the Chrysanthemum, they should never receive a check. Few plants are more effective when well grown, and none so miserable when neglected. Another point of importance with these plants is to make new plants annually, and discard all stools at four years old, as by this time they will have impoverished the soil, and will have become a thicket of young and weakly shoots. In planting dig deeply, apply manure freely, and plant somewhat deeper than usual with most plants, on account of their making a great quantity of surface roots. If they can be given a position where they may be saturated two or three times weekly so much the better.

Insects Attacking the Foliage of Wall Fruit Trees (W. H.).—The insects are the pitchy-legged weevil (*Otiorhynchus picipes*), the males of which are about quarter of an inch long and the females one-third of an inch in length. The weevil is pitch brown or earth coloured, hence the name of "clay weevil," the upper part or surface of the body being tubercled and sprinkled with minute pale grey or yellow scales. Each pit in the rows on the elytra (wing cases) has a whitish scale in the middle. The legs and antennæ are rather paler in colour than the body, the males being much brighter than the females. The beetles feed on the young growths of Apricots, Peaches, Vines, and other fruit trees, also on the shoots of Raspberries and other shrubs, and frequently are very destructive to Peas and other vegetable crops. The weevils, as you say, are only to be found at night. They hide in the daytime beneath clods, stones, or cracks in the ground, and in the case of walls in the joints of the masonry, but more commonly in the soil at the foot of the wall. There and for 3 feet distance from the wall we advise your applying kainit, 4 ozs. per square yard, and watering at once with a gallon of water to each square yard, or that amount of water with the kainit dissolved in it may be used, and applied in the morning. As the weevils are practically wingless, seldom flying except for special purpose, their attacks are usually limited in area. They can be captured at night by spreading white cloths in the daytime on the ground beneath the infested trees or plants, and after dark approaching them cautiously and giving a sharp shaking. The insects will then drop and are easily collected by the aid of a lantern (which should be kept dark or concealed until just after the shaking), and if placed in a vessel containing a little petroleum are easily destroyed. The beetles may often be prevented ascending the trees or walls by means of a sticky band around the stem or along the base of the wall.

Names of Plants.—We only undertake to name species of plants, not varieties that have originated from seeds and termed florists' flowers. Flowering specimens are necessary of flowering plants, and Fern fronds should bear spores. Specimens should arrive in a fresh state in firm boxes. Slightly damp moss, soft green grass, or leaves form the best packing, dry wool the worst. Not more than six specimens can be named at once, and the numbers should be visible without untying the ligatures, it being often difficult to separate them when the paper is damp. (C. L. M.).—The tree with panicles of white flowers is *Prunus padus*, the Bird Cherry; the mottled leaf is the variegated Elm, *Ulmus campestris variegatus*; the tree with bunches of white flowers is *Cratægus Douglasi*, the Douglas Thorn, a native of North America. (Orton).—*Prunus padus*, Bird Cherry. (J. L.).—1, *Bertolonia margaritacea*;

2, not yet identified; 3, *Sedum carneum variegatum*; 4, *Meyenia erecta alba*; 5, *Maranta Massangeana*; 6, *Pleroma argyræa*. (Reader).—Specimen withered, possibly *Spiræa opulifolia*. (G. H. T.).—*Exochorda grandiflora*. (H. P.).—1, *Ceanothus dentatus*; 2, *Prunus padus*; 3, *Staphylea colchica*.

COVENT GARDEN MARKET.—MAY 13TH.

HEAVY supplies of goods with prices unaltered. Trade more brisk.

FRUIT.

	s.	d.	s.	d.		s.	d.	s.	d.		
Apples, per bushel	2	0	to	4	6	Lemons, case	11	0	to 14	0	
„ Tasmanians, per case	10	0		12	0	St. Michael Pines, each ..	2	0		8	0
Grapes, per lb.	1	6		3	0	Strawberries, per lb. ..	2	0		4	0

VEGETABLES.

			s.	d.		s.	d.			s.	d.	s.	d.	
Asparagus, per 100	..	..	2	0	to	3	6	Mustard and Cress, punnet	0	2	to	0	0	
Beans, per lb.	0	9		1	2	Onions, bushel	..	..	3	6	4	0
Beet, Red, dozen	1	0		0	0	Parsley, dozen bunches	..	..	2	0	3	0
Carrots, bunch	0	3		0	4	Parsnips, dozen	..	..	1	0	0	0
Cauliflowers, dozen	2	0		3	0	Potatoes, per owt.	..	..	2	0	4	0
Celery, bundle	1	0		0	0	Salsafy, bundle	..	..	1	0	1	6
Coleworts, dozen bunches			2	0		4	0	Seakale, per basket	..	..	0	0	0	0
Cucumbers, dozen	1	6		3	0	Scorzonera, bundle	..	..	1	6	0	0
Endive, dozen	1	2		1	6	Shallots, per lb	..	..	0	3	0	0
Herbs, bunch	0	3		0	0	Spiuach, pad	..	..	0	0	4	6
Leeks, bunch	0	2		0	0	Sprouts, half siv.	..	..	0	0	0	0
Lettuce, dozen	1	3		0	0	Tomatoes, per lb.	..	..	0	6	1	3
Mushrooms, per lb.	0	6		0	8	Turnips, bunch	..	..	0	3	0	0

PLANTS IN POTS.

Arbor Vitæ (various) doz.	6	0	to	36	0	Ferns (small) per hundred	4	0	to	6	0
Arum Lilies, per dozen ..	6	0		9	0	Ficus elastica, each	1	0		7	0
Aspidistra, dozen	18	0		36	0	Foliage plants, var. each	1	0		5	0
Aspidistra, specimen plant	5	0		10	6	Genista, per dozen	6	0		10	0
Azalea, per dozen	12	0		24	0	Hydrangea, various, doz. ..	9	0		24	0
Cineraria, dozen pots ..	6	0		9	0	Lilium Harrissi, per dozen	15	0		24	0
Cyclamen, dozen pots ..	8	0		15	0	Lycopodiums, dozen	3	0		4	0
Dielytra, per dozen	9	0		12	0	Marguerite Daisy, dozen ..	6	0		9	0
Dracæna, various, dozen ..	12	0		30	0	Mignonette, dozen pots ..	6	0		9	0
Dracæna viridis, dozen ..	9	0		18	0	Myrtles, dozen	6	0		9	0
Ericas, various, per dozen	9	0		24	0	Palms, in var., each	1	0		15	0
Euonymus, var., dozen ..	6	0		18	0	„ (specimens)	21	0		32	0
Evergreens, in var., dozen	6	0		24	0	Spiræas, doz.	6	0		9	0
Ferns in variety, dozen ..	4	0		18	0						

AVERAGE WHOLESALE PRICES.—OUT

Anemone (French), dozen bunches	2	0	to	4	0	Pelargoniums, 12 bunches	6	0	to	9	0
Arum Lilies, 12 blooms ..	2	0		4	0	Polyanthus, dozen bunches	1	6		2	6
Asparagus Fern, per bunch	2	0		4	0	Primroses, dozen bunches	0	6		0	9
Azalea, dozen sprays	0	4		0	6	Primula (double), dozen sprays	0	6		1	0
Bouvardias, bunch	0	6		1	0	Roses (indoor), dozen ..	1	0		2	0
Camellias, dozen blooms ..	0	9		1	6	" Tea, white, dozen .. .	1	6		2	6
Carnations, 12 blooms ..	1	0		3	0	" Yellow, dozen (Niels)	2	0		4	0
Cyclamen, dozen blooms ..	0	3		0	6	" Red, dozen blooms ..	2	0		4	0
Daffodils, single, doz. bun.	1	6		6	0	" Safrano (English), dozen	1	6		2	0
Eucharis, dozen	1	6		3	0	" Pink, per dozen .. .	3	0		6	0
Gardenias, dozen	2	0		3	0	Smilax, per bunch	4	0		6	0
Geranium, scarlet, doz. bunches	4	0		6	0	Spiræa, dozen bunches ..	3	0		5	0
Iris (English) doz. bunches	4	0		6	0	Stephanotis, dozen sprays	3	0		4	0
Lilac (French) per bunch	3	0		4	0	Tuberose, 12 blooms .. .	0	6		1	0
" (English) doz. bchs.	3	0		6	0	Tulips, dozen bunches ..	2	0		6	0
Lilium longiflorum, twelve blooms	3	0		5	0	Violets Parme (French), per bunch	3	0		4	0
Lily of the Valley, 12 sprays	0	6		1	0	" Ozar (French), per bunch	2	0		3	0
Maidenhair Fern, doz. bchs.	4	0		8	0	" Victoria (French), 12 bunches ..	1	0		1	6
Marguerites, 12 bunches ..	2	0		3	0	" English, 12 bunches	0	9		1	0
Myosotis or Forget-me-not, dozen bunches	2	0		4	0	Wallflowers, dozen bunches	2	0		3	0
Narcissi, var., doz. bunches	0	9		2	0						
Orchids, various, doz. blms.	1	6		12	0						



DRAUGHT HORSES.

OBJECT lessons are now made a great feature in our elementary schools, and as we never finish learning as long as life lasts, to object lessons we greybeards owe as much as do our children. True, our object lessons are not taught in the narrow limits of the school walls and the lessons are optional, not compulsory; but he is a wise man who eagerly embraces every chance and opportunity he has for increasing his knowledge, be it the knowledge of stock raising, corn growing, dairying, or any other industry that affects the agricultural interest. A man's opportunities are limited and restricted if he never goes far afield, and judicious outings enlarge and open the mind. "Home-staying youths have ever homely wit." Travelling is made so easy now, and there is so much business or pleasure or both combined which takes men up to London or other great centres that it is well worth while going sometimes on what our forefathers might have considered profitless and idle journeyings.

There is hardly a farmer anywhere who does not fancy he knows something of horses—from the noble lords farming in Kent and breeding polo ponies to those masters of their art whose hunters figure first and foremost in all the prize rings of the country. London in spring provides a most complete object lesson for each and every sort of breeder, and to the hearing ear and seeing eye a trip to the great Agricultural Hall during the exhibition of Shires, hunters, and hackneys is time and money well spent.

Taking the draught horse as more peculiarly the farmer's special province, what great strides have been made in this present generation! If you doubt it, go and have an object lesson at the first foal show in your neighbourhood and see what the introduction of sound and well-bred sires has done. We remember in our youthful days "The Honest Toms," "Farmer's Friends," and a host of other horses that travelled the district. They were anything but "honest," and anything but "farmer's friends." They filled the eye certainly, and were beautifully groomed; but, alas! they were generally all that a sire should not be. Possibly the fee was low, and the farmers were compelled to use them or none. The good ones were so few and far between, and there seemed to be an idea about that a few (?) hereditary blemishes not only did not matter, but must be allowed as a necessary evil.

If unsound horses will work on the land that is no reason they should be tolerated. A horse must be fed and housed; therefore feed and house one that will be a credit to you, and will do your work in the best possible manner, and will breed you stock which, if not needed at home, will find a ready market for railway, van, brewer's, and other town work. Strength and quality are always in demand, and excellent prices can be obtained for what is sound and honest. In the matter of Shire stallions Government does not seem inclined to help, and thus the matter is left for private enterprise, possibly the very best thing that could be. It has been the custom in many localities for farmers and those interested in local industries to form companies to purchase or hire, as the case may be, reliable sires, whom they can thus use profitably, and at reduced fees. The subscription list ought not to be difficult to fill, and indeed with energetic men as Hon. Secretaries the thing will be done quickly. Naturally the first person to head the list will be the largest landowner, who is only too glad to contribute to what will be of great benefit to his tenants and neighbours. In looking through a list of Shire-horse members it will be found that many big men in the neighbourhood who are not purely agricultural, but who are connected with commercial enterprise, such as brewers, city men, contractors, and railway magnates, will be ready to help with name and purse. They are consumers, as it were, and it is to their interest to forward the production of the raw article; they cannot themselves (except in isolated instances) undertake the breeding of horses suitable for their work, and find it cheaper and better to buy of the farmer. If the case be put clearly before these gentlemen, and also before the majority of city firms, there would doubtless be a liberal response to the appeal.

As for opportunities of hiring or buying sires they are much increased, and the object of the great shows is in a measure to advertise the whereabouts of promising "young uns," which are excellent examples of what a good horse should really be. It is not always necessary to travel as far as the great London show to get what is needed. There are many studs doing good work scattered over the country, and a knowing man can often pick up just what he wants privately; and it has oftentimes proved that a horse not made up for show purposes will produce as good, if not better, stock than his more pampered medal-bedecked brother.

It is a wise rule always to buy the best in the market, even if the price be a little beyond the limit laid down. We cannot all

breed winners and champions, but there is more possibility of them if, by careful choice of sire and dam, we do our best in the matter; but remember a good sire will not do away with or counteract imperfections on the dam's side. The dam must be absolutely sound; active, clear of side bones, or other hereditary failings. She is no delicate pet, to be wrapped up in cotton wool, and coddled. She must be able to do her full share of work practically up to the day of foaling, only being kept clear of the shafts and heavy loads for six months before. She ought to be put to light work by the time the foal is a month old, so practically her "idle times" are very short. Just a sketch of a good sire in the fewest possible words. He should be tall, with short legs; long, with short back; flat bone, not too much; long silky hair, longish pasterns, big sound feet, with well-sprung fore legs. For illustration of the above see first prize Shire horse at the next county show.

WORK ON THE HOME FARM.

"Dry weather, and very dry weather," is the universal report, and men are looking grave. "Is this," they say, "to be another great drought?" Most of the corn sowing is done, Potatoes are in, Mangold land has been well worked and drilled, and the breadth of land for Swedes is clean and in splendid form. Some parts of England have felt frost enough to nip the early Potatoes, but in general there has been little or no damage—just a check to too superabundant vegetation. Rain is wanted badly. The late eaten Turnip fields cannot be drilled with the land in such a dry cloddy state, and we have heard of a piece of Mangold land abandoned altogether as hopeless. There is poor prospect of much meadow grass or heavy forage crops unless we have soon—even before these words are in type—a heavy soaking rain of many hours.

Some spring corn, instead of covering the land thickly, is looking patchy in places; wireworm is probably the cause, and if rolled at once, and a dressing of 1 cwt. of nitrate of soda, and 3 cwt. of common salt per acre be applied, a cure is generally effected. Rape cake is also a much vaunted cure. It is a capital tillage, and is also destructive to this particular form of insect life. It is generally on weak, poorly farmed land where wireworm is most abundant. You cannot make bad land good, but you can be liberal with your manures, and practise high farming generally.

These pleasant bright days are capital for turning out mares and foals for an airing. Care should be taken to guard against sudden showers, nor should the outing be too long at first. Remember, too, other horses are inquisitive, and it is well that the mare and foal have a pasture to themselves. Accidents so easily happen, and a nasty kick is sometimes a tedious if not dangerous business.

Fat sheep are going off quickly, and are selling only fairly well. Let us hope their "jackets" may prove remunerative this year. What a difference there is, too, in the style of clipping, and a neat appearance must count for something in a selling pen. Of course we do not urge clipping as for a show, but in one case it is simply a removal of a fleece, or part of one, by a novice, in the other it is a workmanlike job. Sheep look better in their skins if a couple of nights elapse between shearing and exposing for sale.

We have ridge-harrowed our Potatoes, and as they promise to make an early appearance we are putting them to bed again with the earthing plough to insure their safety from frost.

METEOROLOGICAL OBSERVATIONS.

CAMDEN SQUARE, LONDON.

Lat. 51° 32' 40" N.; Long. 0° 8' 0" W.; Altitude 111 feet.

DATE.		9 A.M.				IN THE DAY.				Rain.	
1896.	May.	Barometer at 32°, and Sea Level.	Hygrometer.		Direc- tion of Wind.	Temp. of soil at 1 foot.	Shade Tem- perature.		Radiation Temperature		
			Dry.	Wet.			Max.	Min.	In Sun.		On Grass.
		Inchs.	deg.	deg.		deg.	deg.	deg.	deg.	Inchs.	
Sunday ..	3	30.418	52.1	45.2	N.E.	49.8	61.9	40.8	111.3	30.4	—
Monday ..	4	30.454	48.4	43.7	N.	50.2	64.2	36.1	116.2	28.0	—
Tuesday ..	5	30.340	54.6	46.2	N.	51.8	67.0	39.0	114.7	29.9	—
Wednesday ..	6	30.291	53.2	48.0	N.	52.7	64.1	44.1	113.1	37.1	—
Thursday ..	7	30.348	55.8	49.7	N.E.	53.0	69.9	44.0	121.3	37.2	—
Friday ..	8	30.266	51.3	48.2	N.	54.1	61.1	44.7	110.9	45.1	—
Saturday ..	9	30.189	57.8	51.1	N.E.	54.2	68.6	44.1	114.6	40.8	—
		30.329	53.3	47.4		52.3	66.3	41.8	114.6	35.5	—

REMARKS.

- 3rd.—Brilliant morning, with fresh breeze; generally cloudy in afternoon.
 4th.—Brilliant throughout.
 5th.—Bright sunshine all morning; generally overcast after noon, and spots of rain in evening.
 6th.—Overcast almost throughout; spots of rain at 8.30 A.M.; gleams of sun at midday.
 7th.—Bright sunshine all morning; frequently cloudy in afternoon.
 8th.—Overcast early; bright sun in morning; cloudy at times in afternoon.
 9th.—Brilliant all day.
 Another fine week, temperature rising steadily; but not much above the average
 —G. J. SYMONS.

Dobbie's Dahlias

5/- PER DOZEN
FLORISTS TO THE QUEEN
ROTHESAY.

STRONG PLANTS, ready for planting out, 5/- per dozen, post free. Our Selection of Varieties from a Collection which embraces ONLY THE BEST VARIETIES.

All Classes—Show, Fancy, Cactus, Single, Pompon, Tom Thumb, and Bedding.

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SPECIMEN DOZENS.

The following 12 Cactus Varieties for 5s.

Baron Schröder, Canuell's Favourite, Black Prince, Olaribel, Duke of Clarence, Harry Freeman, Honoria, Lancelot, Marchioness of Bute, Rayon d'Or, Snowflake, St. Catherine.

The following 12 Single Varieties for 5s.

Amos Perry, Cleopatra, Demon, Chilwell Beauty, Golden Locks, Lutea Grandiflora, Kitty, Mrs. Grant, Mrs. Harris, Miss Ramsbottom, Willie Fyfe, White Queen.

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Anne of Geierstein, Alice Lee, Argyle, Keulworth, Lady Rowena, Peveril, Bruce, Earl Ravenswood, Lochiel, Queen Mary, Novar, Marmion.

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gives all particulars, including COLOUR, HEIGHT, SEASON
OF FLOWERING, &c., &c., of THOUSANDS of these marvellously
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—JOHN FORBES, Hawick, Scotland.



Wm. PAUL & SON'S NEW ROSES for 1896.

ENCHANTRESS (Tea), Creamy White, tinted with Buff in the centre; large, full, and globular; of vigorous growth, and great freedom and continuity in blooming. Silver Banksian Medal and Award of Merit from the Royal Horticultural Society. 10/6 each.

QUEEN MAB (China), Rosy Apricot, shaded with Orange, outside tinted with Rose and Violet; sturdy habit of growth; great substance of petals. Certificate of Merit and Award of Merit from the Royal Botanic and Royal Horticultural Societies. 10/6 each.

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SYLPH (Tea) 3/6 to 7/6 each
ZEPHYR (Tea) 3/6 to 7/6 each

CLIO, DUKE OF YORK, LORNA DOONE,
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LORD PENZANCE'S HYBRID SWEET BRIARS 2/- to 3/6 each

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Journal of Horticulture.

THURSDAY, MAY 21, 1896.

WORK AND PLEASURE.

WORK first: though pleasure to the many involves work to the relatively few, as will be seen; but it is always work first—real work of the hardest—then pleasure of the purest that the earth can afford may follow—the best of music, and the richest of flowers. Work has been prevalent in gardens of late. It usually is, and not the less actual when the sun is bright for weeks, the air keen and harsh, the soil dusty or cloddy according to its nature, rendering seed-sowing discouraging, planting irksome, and the weather conditions such as gardeners generally do not rejoice in; one exception, however, exists, as revealed in the postscript (an unusual one) of a letter to the Editor.

"Good weather for bricks; making 80,000 a week now." Thus writes a gardener. There is no mistake about it—a real genuine gardener, who discharges his duties, probably, as well as it would be possible to discharge them in the situation that he has filled long and well. He is a man of great energy, and required something more than the charge of a gentleman's estate to subdue it and keep himself in health.

This gardener has always been making bricks, metaphorically, throughout his career, in simply making the most and the best of his opportunities in an upright and honourable way and now he has gone beyond metaphor. His cultural work has been of the first order, and honoured by the Royal Horticultural Society; while he has always been ready to turn his hand to anything in the interests of his employer (and himself) from setting a boiler to laying a drain. He has never been afraid of soiling his hands or dirtying his coat—when it was on—though he has had thirty, and often many more men, to do his bidding. These men he could not only tell what to do, and tell them clearly, but could, and did, show them how to do it. But though expert in manual work he is not less so in other things pertaining to his calling.

Ready and able when called on to make a bouquet or wreath, or dress a dinner table; to give designs for landscape gardening, and provide estimates of cost for carrying out the work; produce plans and specifications for buildings of various kinds; manage the farm and stock;

take a trip to Scotland now and then for buying the best cattle to be found for his master, with a few animals for himself, and turning them over at a profit; passing for a change into the Poultry arena, obtaining high-class birds, winning prizes at the Crystal Palace and other great shows with them, then advertising eggs in the paper called "Poultry," and sending them at "long" prices all over Europe; next as a further change turning his attention to the canine world, and now marching from the garden to his brickfield, with a gold medal colley at his heels that much more than £200 would not buy of any man's money.

This is not fiction but fact—no mere pen picture, but a record that numbers of people know to be true in every detail; but not the whole truth, for this working gardener did not let bees alone. He bought modern hives and all kinds of apiarian appliances, "bothered about" with them, eventually taking to large straw skeps, then came the honey, the multifarious utensils forming a sort of museum in his workshop. For making this comfortable he made himself a boiler, just an ordinary fire-grate with hollow bars, and from them pipes all round the shop for heating. He stocked this laboratory with various tools, morticing and other machines, and made frame-lights in scores when many men were sleeping, preparatory to buying land for market gardening.

In his search for this land was found a tract so bad, so heavy and unworkable, so useless, that it would grow nothing, and no one seemed to want it. The gardener examined it, crushed it, caked it, weighed it, baked it, tramped on it, thought about it, slept over it, and eventually bought it, as he had arrived at the conclusion that it would grow something—bricks. He was right, and these it is growing now at the rate of 2,000,000 a year—a good crop it will be admitted, but not equal to the demands.

This is done under his leisurely superintendence, a once a week visit or so to "pay the men" (on contract work), except when the duty is done by the queen of his heart and home, his chancelloress of the exchequer. It is all true, every word of it; true also that the bees have gone and most of the fowls, also the machinery, sashes, and all the paraphernalia for market gardening since he has found the crop that pays the best, the result of knowledge, judgment, and work—bricks.

This little narrative is not without its lessons. Here is a gardener who before reaching the meridian of life has won his independence by his own efforts from youth upwards. When earning little in his early days he always saved a little, if only 6d. a week, then spent not all his spare time in cricketing, but a full share of it in educational acquirements in the determination to prepare himself for every duty that a gardener might be called on to fulfil. He, in fact, made himself an accomplished gardener, a valuable and trusted overseer, yet always a worker, never a dandy, and could now "ride in his carriage" if he liked.

Was success ever achieved without great diligence, clear thought, strenuous endeavour, and persistent work? Notable achievements seem easy when accomplished. Look at a great flower show like the brilliant example in the Temple Gardens. What does this great rendezvous of delight, this source of pleasure in its highest form to thousands, mean? It means "work." That is the root and mainspring of it all. It is an aggregation of splendid work by devoted cultivators of flowers, a representation of zealous work by secretaries, clerks, managers, and industrious assistants—a concentration of endeavour in various ways on a central object, a great organised stimulus to floriculture, and a great success.

One more duty remains. The excellent work so well done by cultivators and officials is acknowledged; yet it cannot exert its fullest and widest influence on the world if the world does not know something of its nature, and thus other workers enter on the scene with sharp eyes, quick pens, and no time for luncheon. We make way then for men whose labours are not always too fully appreciated in connection with shows and the diffusion of matter that widens the interest in horticulture—the reporters.

TEMPLE SHOW.

MAY 19TH, 20TH, AND 21ST.

FOR the ninth successive year the Royal Horticultural Society has, by the courtesy of the Benchers of the Inner Temple, held its great flower show in these charming gardens. Each year has shown an improvement up to the present one. Last year it will be remembered the space at the disposal of the accepted exhibitors was totally inadequate, with the consequence that crowding was much too apparent. To a certain extent this is the fault of the stagers, to whom the packing of as many plants or flowers in a given space appears to be of the utmost importance. This is to be regretted, and though not, perhaps, so obvious this year, there still remains room for considerable improvement. The most marked advance at the present year was in Roses and Caladiums.

Notwithstanding the fact that the tents were the same size and occupied last year's positions there was rather more table space, secured by the widening of the central staging in the three erected parallel with the Embankment. The gross space of tabling amounted to 12,000 square feet, and every available inch was utilised. For the manner in which each exhibitor's space was allotted to him Mr. Wright seems to have acted judiciously, and is to be congratulated on the management of his first Temple show. It will be interesting to many to know that applications were made for 18,000 square feet of tabling, of which one-third had to be declined. The Benchers of the Temple will not sanction the erection of more tents, but it is regrettable that so many would-be exhibitors must be refused. Nurserymen's exhibits have also had to be greatly curtailed, but each firm has succeeded in doing itself credit.

The plants allotted to the various tents, ranged in very much the same style as last year, the Orchids, for example, being grouped mainly on the central staging of the big marquee. Round the sides of this tent were the foliage plants, the Roses, the Carnations in pots, and others in pots. In the four remaining tents were the remainder of the Orchids and Roses, with flowering and foliage plants, fruits, vegetables, and hardy flowers. Quantity was there, but so also was quality, each perhaps a little in advance of what has previously been seen. It was with regret that many people discovered the absence of the customary exhibit from Baron Schröder, who always stages in such magnificent form. It is to be hoped that The Dell Orchids will be seen at future exhibitions, though, of course, everyone knows what an ordeal it is for the plants to be packed in those tents for three days.

Fortunate indeed were the visitors that the weather kept fine. For several days there have been threatenings of rain, and a little did fall on Tuesday and Wednesday, but it was only a slight drizzle, and did not last long—in fact, late in the morning of Tuesday the sun shone brilliantly, and it became very warm indeed in the tents. As usual, the gardens presented a gay appearance on each day, especially perhaps in the afternoon, and that the excellent band was highly appreciated cannot be doubted. At the moment of going to press we were informed that the attendance on the first day exceeded that of any other opening day at the Temple.

ORCHIDS.

The Orchids were numerous, unusually diversified, and many of splendid quality. The central stage in the main marquee was wholly given up to them, and then several exhibitors had to stage their produce in the adjoining tent. Besides being richly coloured the flowers were of splendid shape and substance, while the plants themselves were in admirable condition. Generally speaking the arrangements showed considerable artistic taste, though here and there signs of crowding were perceptible.

Prominent on entering was the exhibit arranged by Messrs. F. Sander and Co., St. Albans. The plants were large in numbers, excellent in quality, and very varied. Grand specimens of culture were the plants of *Odontoglossum vexillarium*, while equally conspicuous were *Cattleya gigas*, *Lælia purpurata*, *Cypripedium bellatulum*, *Cattleya intermedia*, *virginialis*, *Mossiaë Ruby King*, *M. maxima*, *Philo*, *William Murray*, and *Skinneri*. There were also some superb forms of *Lælia purpurata*, *L. elegans speciosa*, *Lælio-Cattleya D. S. Brown*, *L. elegans alba*, *Dendrobium thrysiflorum*, *Maxillaria Sanderiana*, *Odontoglossum Pescatorei ornata*, *Vanda teres*, *Ansellia africana*, *Lycaste Measuresiaë*, *Dendrobium chrysotoxum*, *D. albo-sanguineum*, *Cypripedium caudatum* *Wallisi*, *Odontoglossum Harryana*, *Oncidium concolor*, *Cymbidium Lowianum*, *Cochlidia Noezliana*, *Angiæcum sesquipedale*, *Dendrobium Parrishi virginale*, *D. dixanthum*, with a beautiful specimen of *Cœlogyne Dayana* on a central pedestal.

Composed of plants carrying splendid flowers was the group arranged by Messrs. Charlesworth & Co., Heaton, Bradford. Amongst the most conspicuous were *Cypripedium Lawrenceanum*, *Cattleya Schröleræ cœrulescens*, *Lælia purpurata*, *Cirrhopetalum picturatum*, *Spathoglottis Kimballiana*, *Cattleya Schilleriana*, *Oncidium macranthum*, *Dendrobium thrysiflorum*, *Cattleya Mossiaë Meteor*, *C. Mendeli*, *C. citrina*, *Odontoglossum crispum*, *Dendrobium Deari*, *Lycaste Skinneri-eximia*, *Cypripedium bellatulum*, *C. barbatum Warneri*, *Dendrobium suavisimum*, and others.

Mr. J. Davis, gardener to J. Gurney Fowler, Esq., Glebelands, South Woodford, was represented by a charming collection of Orchids, sprays of *Asparagus plumosus* being utilised for setting off the flowers. Amongst

others were *Cypripedium Lawrenceanum*, *C. L. Hyeannum* (very fine), *C. caudatum*, *Cattleya Lawrenceana*, *C. Mossiae* in variety, *Oncidium concolor*, *Cypripedium bellatulum album*, *Odontoglossum Roezli*, *O. vexillarium*, *O. crispum*, *Cattleya citrina*, *Lælia purpurata*, *Dendrobium Dalhousianum*, *Dendrobium Phalaenopsis*, and *Epidendrum Wallisi*.

Cattleya Mendeli leucoglossa, a chaste pale coloured variety, came from Mr. Johnson, gardener to Thos. Statter, Esq., Stand Hall, Manchester, as also did *Cypripedium Gertrude Hollington*. G. W. Law-Schofield, Esq., New Hall Hey, Rawtenstall, sent *Cypripedium Amie Louise*.

Mr. F. J. Thorne, gardener to Major J. J. Joicey, Sunningdale Park, Sunningdale, arranged an exhibit largely consisting of *Odontoglossum vexillarium*. The plants in small pots were carrying several spikes of perfectly developed flowers. Besides these were noticed *Cymbidium Lowianum*, *Dendrobium atro-violaceum* Major Joicey's var., *Cypripedium Stonei*, *Odontoglossum crispum*, *Cypripedium Curtisi*, *Odontoglossum cordatum*, *Epidendrum vitellinum majus*, *E. Randi*, *Anguloa Ruckeri*, *Cattleya Mossiae*, and others.

Mr. P. Blair, gardener to the Duke of Sutherland, Trentham, sent a plant of *Odontoglossum crispum* carrying several spikes; and Mr. T. W. Bond, gardener to C. L. N. Ingram, Esq., Elstead, Godalming, a plant of a superb *Cattleya Mossiae* named Chas. Ingram. Messrs. B. S. Williams and Co., Victoria and Paradise Nursery, Upper Holloway, sent a group of Orchids interspersed with Ferns. There were *Cymbidium Lowianum*, *Lælia purpurata*, *Vanda tricolor*, *V. suavis*, *Odontoglossum crispum*, *O. vexillarium*, *Cattleya Mossiae*, *C. citrina*, *Odontoglossum Wilckianum*, *O. luteo-purpureum*, *Oncidium concolor*, *Odontoglossum cordatum aureum*.

Quality was well in conjunction with quantity in the group of Orchids staged by Mr. W. H. White, grower to Sir Trevor Lawrence, Bart., Burford Lodge, Dorking. The Orchids were intermingled with Ferns, so that the merits of the flowers could be seen at a glance. Singularly conspicuous were *Maxillaria Sanderiana*, *Epidendrum Stamfordianum* (fine), *Cœlogyne odoratissima*, *Anguloa Ruckeri sanguinea*, *Epidendrum Mooreanum*, *E. vitellinum majus*, *Dendrobium revolutum*, *Cypripedium Stonei grande*, *Maxillaria Houtteana*, *Dendrobium setaceum*, *Cymbidium Lowianum*, *Eria flava* (rare), *Epidendrum elegantulum*, *Phalaenopsis grandiflora*, *P. Luddemanniana*, *Saccolabium ampullaceum* (fig. 76, page 463), *Thunia Bensonæ*, *Cattleya Lawrenceana*, *Odontoglossum Andersonianum*, *O. elegantius*, *Cattleya Mossiae*, *Odontoglossum luteo-purpureum hystrix*, *Miltonia Bleuiana nobilior*, *Cattleya Parthenia*, *Sobralia macrantha*, *Cypripedium barbatum*, *Oncidium luteum*, *Cypripedium bellatulum*, some beautiful forms of *Odontoglossum crispum*, with the curious *Bulbophyllum Barbigerum*, and many others.

Odontoglossum crispum in great variety comprised the bulk of the exhibit from Mr. D. Masterton, gardener to W. S. Ellis, Esq., Hazlebourne, Dorking. The plants were magnificently grown, and carried some splendid spikes of blooms. Besides these there were *Odontoglossum vexillarium* in variety, *Cochlidia Noezliana*, *Odontoglossum citrosum*, *Cypripedium bellatulum*, *Odontoglossum cordatum*, and others.

Mr. G. Wythes, gardener to Earl Percy, Syon House, Brentford, had a grand exhibit of Orchids. The plants gave abundant evidence of good culture. Amongst them were noticed *Aërides odorata*, *Cypripedium barbatum*, *Dendrobium thyrsiflorum*, *Lælia purpurata*, *Cattleya citrina*, *C. Mossiae*, *Oncidium concolor*, *Lycaste Deppei*, *Oncidium ampliatum majus*, *Cymbidium Lowianum*, and several others. Mons. Jules Hye-Leyen, Ghent, sent a few Orchids, including *Miltonia vexillaria Cæneana*, *Odontoglossum Pescatorei*, *O. crispum*, and *O. expansum*. Mons. Botelberghe, Ghent, sent *Odontoglossum polyanthum*; and Mons. Morns, Leda, Belgium, *Cypripedium Baptisti*.

Brightly beautiful were the Orchids from Mr. W. H. Young, gardener to Sir Frederic Wigan, Clare Lawn, East Sheen, *Cymbidium Lowianum*, *Dendrobium phalaenopsis*, *Thunia Wigianum*, *T. Marshalliæ*, *Lælia purpurata*, *Cypripedium Lawrenceanum*, *C. barbatum nigrum*, *Cattleya Mossiae*, *C. Schilleriana*, *Odontoglossum crispum*, *Cattleya Mendeli*, *Cymbidium Lowiana concolor*, *Epidendrum Randi*, and many others.

Mr. Hislop, gardener to H. S. Leon, Esq., Bletchley, sent a beautiful stand, comprising well-grown examples of various Orchids. Prominent among them were *Lælia purpurata*, *Brassia verrucosa*, *Cattleya Mossiae*, *Odontoglossum crispum*, *Cattleya Lawrenceana*, *Oncidium concolor*, *Dendrobium thyrsiflorum*, *Vanda tricolor Patersoni*, *Cymbidium Lowianum*, *Cypripedium Rothschildianum*, and *Odontoglossum vexillarium*.

A showy bank of Orchids was staged by Messrs. H. Low & Co., Upper Clapton. The plants were well flowered and the blooms were of capital quality. Particularly conspicuous were the varieties of *Odontoglossum crispum* and *Cattleya Mossiae*; *Cypripedium hirsutissimum*, *Phalaenopsis intermedia Portei*, *P. leucorrhoda Lowiæ*, *Cypripedium niveum*, *Dendrobium Parishii*, *Odontoglossum crispum Lowæ*, *Lælia purpurata*, *L. grandis tenebrosa Gilmore's var.*, *Cattleya Mossiae Arnoldiana Low's var.*, *Cœlogyne pandurata*, *Odontoglossum Halli grande*, *O. vexillarium*, *Phalaenopsis casta*, and many others.

Splendid examples of *Lælia purpurata* were conspicuous in the exhibit from Messrs. W. L. Lewis & Co., Southgate, as also were *Cattleya Mossiae*, *Cypripedium bellatulum southgatense*, *Odontoglossum crispum*, *O. citrosum*, *Cypripedium Rossianum*, *C. barbatum*, *C. Harrisonianum* superbum, *Lælia purpurata Bella*, *L. p. Lewisii*, *Cattleya Mendeli*, and several others. Mr. J. Cypher, Cheltenham, had a very charming exhibit of Orchids, in which many splendid plants were seen. They comprised *Lælia purpurata* in extensive variety, *Cattleya Mendeli*,

Cypripedium Exul, *Cattleya Acklandi*, *Cypripedium grande atratum*, *Odontoglossum ramosissimum*, *Oncidium concolor*, *Odontoglossum vexillarium*, *Masdevallia*, *Cypripedium selligerum majus*, *Dendrobium pulchellum*, *Cattleya citrina*, and *Odontoglossum maculatum*.

Mr. Geo. Purseglove, gardener to G. H. Rolls, Esq., Richmond Park, Bournemouth, staged a few Orchids in creditable condition, as also did Mr. W. Buckell, gardener to Malcolm S. Cooke, Esq., Kingston Hill. Messrs. Backhouse & Son, York, arranged some spikes of *Odontoglossum crispum*, with *Asparagus*, on a rockery, producing a charming effect. Messrs. Linden, Brussels, sent a superb *Odontoglossum* named *augustum*, with *O. Ruckerianum aspersum*, *O. crispum albo-lutescens*, *O. Pescatorei guttatum*, *Gongora portentosa rosea*, and *Cattleya Reineckiana exquisita*.

ROSES.

Roses formed an important feature in the large tent, and a fine group set up by Messrs. W. Paul & Son, Waltham Cross, was exceedingly effective. The groundwork was formed of dwarf plants in pots, with graceful standards towering above, thus doing away with any flatness of surface that otherwise might have arisen. Very charming were the standard specimens of *Rubens*, *Crimson Queen*, climbing *Niphetos*, *Ulrich Brunner*, *Sappho*, *Jean Ducher*, *Medea*, *Madame Cusin*, *Clio*, *Sylph*, *Duke of York*, and *William Allan Richardson*; while amongst the bush plants *Mrs. John Laing*, *Crimson Rambler*, *Magna Charta*, *Caroline Testout*, *Spenser*, *Gustave Piganeau*, *Margaret Dickson*, *Baroness Rothschild*, *Dr. Andry*, and *Fisher Holmes* were pleasingly conspicuous. No less beautiful were the numerous cut blooms which were included in the exhibit.

Stretching across one end of the marquee was the exhibit of Mr. Charles Turner, Slough, consisting almost entirely of Roses. In the centre of the group was a fine arch of *Crimson Rambler*, the same variety forming a pretty background, being fastened up the tent poles. Bush plants of the *Rambler* were also dotted about here and there, and nothing could be more striking than their masses of crimson blossoms. In addition to these were superb specimens of *La France*, *Ulrich Brunner*, *Madame Victor Verdier*, *Edith Gifford*, *Juno*, *Celine Forestier*, *Mrs. John Laing*, and *Juno*, comprising an exhibit of superb merit. At each corner was a small group of Carnations, consisting of *Pride of Penhurst*, *Waterwitch*, *Little John*, *Cardinal Wolsey*, *Sir Guy*, *Duchess of Portland*, and others.

Messrs. Paul & Son, Cheshunt, were also represented by a large display of Roses in pots. The plants were arranged in an undulating form which was highly creditable, and amongst others were noticed superb specimens of *Magna Charta*, *Juno*, *Celine Forestier*, *Caroline Testout*, *François Levet*, *Charles Lawson*, *La France*, *William Warden*, *Alphonse Soupert*, *Ulrich Brunner*, *Beauty of Waltham*, *Paul's Carmine Pillar*, *Francisca Krüger*, and *Jean Ducher*. The same firm also showed several good Cannas, such as *Charles Moore*, *L. E. Bally*, *T. J. Berckmans*, and *Comet*. Roses were also well shown by Mr. W. Rumsey, Waltham Cross, whose plants though small were on the whole well flowered. Good specimens of *Crimson Rambler* were noticed, with *La France*, *The Bride*, *Maréchal Niel*, *Niphetos*, *Madame Hoste*, *Catherine Mermet*, *Spenser*, *Ernest Metz*, *John Stuart Mill*, and *Senateur Vaisse*.

Messrs. G. Jackman & Son, Woking, sent some well-flowered pot Roses, though some of the blooms were a little past their best. *Crimson Rambler*, *La France*, *Duchesse de Morny*, and *Magna Charta* were of the best. Cut Roses in perfect form came from Mr. G. Mount, Canterbury. There were several boxes, and the varieties represented were *La France*, *Mrs. J. Laing*, *Niphetos*, *Fisher Holmes*, *Comtesse de Nadaillac*, *Rubens*, *Souvenir d'un Ami*, *Général Jacqueminot*, *Ulrich Brunner*, *Lady Mary Fitzwilliam*, *Marie Finger*, *Viscountess Folkestone*, *Maréchal Niel*, and many others.

PLANTS AND FLOWERS.

One corner of the large tent was filled up with the exhibit of Messrs. W. Cutbush & Son, Highgate. Carnations formed a bright feature, consisting of a fine group of *Malmaisons*, *Uriah Pike*, *Germania*, and others. Large Palms made a good background, and in front, tastefully arranged, were fine plants of *Lilium Harrisii*, *Pimelea spectabilis*, *Crassula rosea*, *Erica Cavendishi*, *Spiræas* in variety, *Mignonette Cutbush's Giant*, with *Azaleas* and other flowering plants. Ferns formed the groundwork, and altogether the group was a very effective one.

The opposite corner was filled by Mr. W. Iceton, Putney, who had a fine collection of decorative plants, consisting of large Palms interspersed with *Acer Negundo variegata*, *Caladiums*, *Dracænas*, and *Crotons* in variety, with flowering plants in the shape of *Lilium Harrisii*, *Ericas* in variety, *Crassula rosea*, *Saxifraga pyramidalis*, and others. Included in the exhibit was a fine specimen of *Kentia Fosteriana aurea*, with foliage of a delicate light golden hue.

Mr. H. J. Jones, Lewisham, was represented by a group of specimen fancy *Pelargoniums*. The result of superior culture was apparent in the clean appearance and sturdy habit of the plants, which presented a perfect mass of large, shapely blooms, pleasingly diversified in hue. A charming bank of Carnations was set up by Mr. C. Blick, gardener to Martin R. Smith, Esq., The Hayes, Kent; both plants and flowers were near perfection, and variety was represented by *Baroness Trumpeter*, *Mrs. Streathfield*, *Princess May*, *Mephisto*, *La France*, *Sir Richard*, *Lord Rosebery*, *The Dauphin*, *Fire King*, *Empress*, and *Nell Gwynne*.

Caladiums were a fine feature, and occupied nearly one side of the large tent. Messrs. J. Peed & Sons, Norwood, staged magnificent plants of *B. S. Williams*, *Ibis rouge*, *Candidum*, *Clio*, *Duchess of Teck*, *Rose Laing*, *Monsieur A. Hardy*, *John Laing*, *Charlemagne*, *Madame Jules*

Picot, Leopold, Robert, Comte de Germiny, Louis Van Houtte, Princess of Teck, and others. The foliage throughout was extremely large and highly coloured, doing credit to the cultivator. Near at hand was the group staged by Messrs. J. Laing & Sons, Forest Hill, and like the former consisted of superb specimens, chief amongst them were *Candidum*, *Clio*, *Charlemagne*, *Leopold*, *Robert*, *Madame Box*, *Rose Laing*, *Baron Adolphe de Rothschild*, and *Michel Buchner*. Light variegated foliaged plants were used in arrangements, which added elegance to the group.

Massive foliage, variety, and distinct colouring were the chief features noticeable in the group of *Caladiums* shown by Messrs. Jas. Veitch & Sons, Chelsea. It would be difficult to obtain finer specimens than those shown by this firm, consisting of *Ladas*, *Tennyson*, *Duke of York*, *Leonard Bause*, *Lord Derby*, *Exquisite*, *Candidum*, *F. W. Moore*, *Prince Edward*, *Duchess of Connaught*, *Silver Cloud*, *Chelsea Gem*, *Sir Oswald Mosely*, and others. The plants were arranged amid a bed of *Maidenhair Ferns*, and formed no small feature in the show. Close by was a fine group of hardy flowering plants shown by the same firm. Conspicuous amongst them were *Azaleas* in charming variety, *Hydrangea paniculata grandiflora*, *Lilium longiflorum*, with *Pæonies* in variety, flowers of *Wistaria sinensis alba*, *Spiræas* *Anthony Waterer* and *astilboides*, with several standard specimens of *Cytisus scoparius Andreanus* (see woodcut, fig. 75), the whole making up a showy group.

Very pleasing amid the mass of flowering plants was the group of



FIG 75.—CYTISUS SCOPARIUS ANDREANUS.

Messrs. Wills & Segar, South Kensington, which was composed entirely of foliage specimens. The exhibit included superb specimens of *Alocasia Thibautiana*, *Dracæna Goldieana*, *Raphis humilis*, *Verschaffeltia splendida*, *Lewcostegia immersa*, and *Kentia Belmoreana*, tastefully arranged with *Ferns* and other plants of graceful habit.

A fine display of tuberous *Begonias*, single and double, came from Mr. H. J. Jones. Plants of *Asparagus plumosus* and *Ferns* were used in staging these, doing away with the formality that would otherwise have existed. The plants throughout bore traces of good culture, being dwarf, sturdy in habit, and diversified in colour, giving a good illustration of the utility of these plants for decorative purposes when well grown.

Messrs. J. Laing & Sons showed seedling *Gloxinias*, *Streptocarpus*, and a few choice flower and foliage plants. The former were all well marked and distinct, and amongst the latter were noticed *Bertolonia Van Houttei*, *Nicotiana colossea variegata*, *Anthurium triumphans*, *Livistonia rotundifolia*, and others. Messrs. Jas. Veitch & Sons made a pleasing display with a large group of *Ferns*, interspersed with masses of *Cannas* and *Calla Elliottiana*. Amongst the former were noticed *Davallia elegans polydactyla*, *Marattia Cooperi*, *Gymnogramma Veitchi*, *Davallia tenuifolia Veitchiana*, *Lomaria gibba*, *Davallia fijiensis elegans*, *Osunda javanica*, *Polypodium Schneideri*, and *Platyserium Veitchi*. Particularly striking amongst the *Cannas* were *The Garden*, *Madame Crozy*, *Cheshunt Yellow*, *Paul Bryant*, *Egendale*, and *Comte de Ganoy*.

An attractive little group of foliage plants was set up by Mr. H. B. May, Upper Edmonton, consisting of *Palms*, *Crotons* *Golden King*, *Warreni*, *Emperor Alexander*, *Aigburth Gem*, *Countess*, and *Mayi*, with *Dracænas*, *Caladiums*, and *Aralias*. The same firm also showed an interesting collection of *Ferns*, comprising many beautiful specimens, such as *Gymnogrammas Alstoni* and *chrysophylla grandiceps*; *Adiantum farleyense*; *Aspleniums Druryi*, *australasia*, *Mayi*, and *marginatum*; *Pteris regina*, *Lomaria attenuata*, *Alsophila excelsa*, *Nephrolepis davallioides multiceps*, *Davallia fijiensis robustum*, and *Cheilanthes elegans*. Mr. H. B. May also sent a group of the new bright yellow *Tropeolum Coolgardie*.

Very interesting was the superb collection of flower and foliage plants staged by Messrs. Sander & Co., St. Albans. New and rare plants were noticed in numerous variety, and comprised *Phoenix Roebeleni*, *Hypericum Moserianum tricolor*, *Alsophila atrovirens*, *Cyrtanthus obliquus*, *Begonia Souvenir de Jean Bart*, *Sonerila Silver Queen*, *Bentinckia nicobarica*, *Heliconia illustris rubricaulis*, and *Utricularia montana*. The exhibit included several fine specimens of *Dracæna Sanderiana* and *Anthuriums Scherzerianum* and *Rothschildianum*. Taste was displayed in the arrangement, so that a really fine exhibit was the result.

An interesting group of plants was staged by Messrs. Linden, Brussels, comprising *Davallia Truffautiana*, *Adiantum lineatum* (see certificated plants), with *Bertolonias* in variety. The plants, arranged on a groundwork of green moss, were very striking.

Mr. T. S. Ware, Tottenham, filled the end of one of the tents with an extremely varied assortment of hardy flowers. These were *Iris*es, both *Spanish* and *German*, *Spiræas japonica* and *multiflora*, *Ranunculus aconitifolius plenus*, *Heuchera sanguinea*, *Geum coccineum*, *Thermopsis montana*, *Pyrethrums* in variety, *Cheiranthus alpinus*, *Dielytra spectabilis*, *Saxifraga pyramidalis*, all tastefully arranged without any clashing of colours, and presenting a display as bright and pleasing as it was varied. The same firm also sent a fine collection of tuberous *Begonias*, amongst which *Princess of Wales*, *Pride of Bexley*, *Novelty*, *Duke of York*, *Samuel Pope*, *Devonia*, *Lord Byron*, and *Bexley Gem* were most conspicuous; the plants throughout were sturdy and the flowers large and well formed. Included also in this large exhibit were fine flowers of pink *Malmaison Carnations*.

A long length of tabling was occupied by Messrs. Kelway, Langport, who showed a fine and varied collection of *Pyrethrums*, double and single, followed by *Iris*es *australis* and others, *Pæonies*, double and single, in great variety, *Centranthus sanguinea*, *Lupinus Foxi*, *Aquilegia cœrulea Kelwayi*, and flowers of *Amaryllis Lord Dunraven*, *Mr. Chaplin*, *Countess of Zetland*, *Florizel* and others, though the latter would have been improved if a little greenery had been used in staging. The display taken as a whole, was striking and interesting, giving a good illustration of the usefulness of these hardy garden flowers.

Messrs. Dobbie & Co., Rothesay, were well represented by *Violas* and *Dahlias*, *Cactus*, fancy, and single. Amongst the former were noticed many pretty varieties, including *Celtic Gem*, *Butterfly*, *True Blue*, *Commodore*, *Sunrise*, *William Niel*, *Iona*, *Marchioness*, *Wonder*, *Acme*, *J. B. Riding*, *Harry W. Stuart*, *Lillie Langtry*, *Blue Cloud*, *Ravenswood*, and *Duchess of Fife*. Single *Dahlias* were represented by *Sir Walter*, *Woodstock*, *Alice Lee*, *Kenilworth*, *Marmion*, and *Bruce*; and amongst the *Cactus* and *fancies* were *Dean Hole*, *Dr. Masters*, *May Pictor*, *Oscar*, *Countess of Pembroke*, *Dawn*, *Honoraria*, and *Oscar*. Many expressions of surprise were heard at seeing *Dahlia* blooms so fine in May, and Messrs. Dobbie have made a new feature at the Temple show by exhibiting them.

Laing's *Begonias* are well known in the horticultural world, and the collection from Forest Hill fully maintained the reputation; fine plants and flowers of both single and doubles were in evidence, consisting of such varieties as *The Giant*, *Lady Foley*, *Duchess of Fife*, *Baron Schröler*, *Duchess of Teck*, *Sir H. Irving*, *Earl of Cranbrook*, *Mons. Blanc*, *Col. Henderson*, and others. In both sections large handsome flowers of good substance were the rule, while the healthy condition of the plants left nothing to be desired in that direction. Mr. Geo. Reid, Beckenham, sent a small collection of seedling *Zonal Pelargoniums* and *Cannas*, several of which were striking.

A fine display was made by Messrs. Jas. Carter & Co., Holborn, first came bards flowers in great variety, comprising *Primulas*, *Campanulas*, *Pyrethrums*, *Iris*es, *Lupins*, *Tulips*, *Geums*, *Alyssums*, *Ranunculuses* and *Phloxes*. Following these was a fine collection of *Calceolarias* of a superb strain, the plants and flowers being of excellent quality. The same may be said of the double *Petunias* shown by the firm. The flowers were numerous, large, and varied in colour, and the plants well clothed with foliage to the pots. A novelty was also shown in the shape of an annual *Rose*; the flowers are insignificant, but interesting from the fact that the seeds were sown in February, and flowers appeared early in May. It would be difficult to speak too highly of the *Gloxinias* staged by Messrs. Carter, which were indeed fine; the blooms being large, numerous, and extremely various, while the foliage displayed unmistakeable evidence of proper care in cultivation.

Hardy flowers were shown in large numbers from the nursery of Messrs. Geo. Jackman & Son, Woking, comprising *Dodecatheons media* and *splendidum*, *Iris germanica*, *Erigerons* in variety, *Pæony officinalis rosea plena*, *Papavers Salmon Queen*, *Blush Queen*, *bracteatum*, and *orientalis* and others. The same firm also exhibited a small but striking collection of border *Carnation* flowers.

Messrs. W. & J. Birkenhead, Sale, Manchester, sent a most interesting collection of *Ferns* and *Selaginellas*. Amongst others were noticed *Adiantums coccineum*, *australasicum speciosum*, *cuneatum grandiceps*,

farleyense, tenerum roseum, intermedium, and others; *Davallia decora*; *Polystichum cristatum*, *aculeatum*, *venustum*, *congestum*, and *divisilobum densum*; *Athyrium plumosum elegans* and *plumosum grandiceps*; *Pteris tremula Smithiana*, *Wimsetti*, and numerous others, making up an exhibit confusing almost in its great variety.

Messrs. J. Backhouse & Sons, York, sent a fine collection of alpine, made more interesting through being arranged naturally on a miniature rockery. A large number of these inobtrusive flowers was represented, including *Saponarias*, *Achilleas*, *Saxifragas* in variety, *Gentiana verna*, *Campanulas*, *Armerias*, *Primulas*, and numerous others. In addition to these were large plants of *Cypripedium spectabilis* and *macrantha*, *Saxifraga pyramidalis*, and others taller in habit, all helping to make up a most interesting exhibit. The same firm also sent plants of a new tree Carnation, *Marjorie Pierce*, and a double Welsh Poppy, *Meconopsis cambrica flore-pleno*.

A large display of flowers came from the nurseries of Messrs. H. Cannell & Sons, Swanley. First were *Gloxinias* (large, varied, and well grown), including, amongst others, *Wm. Marshall*, *Miss Dorothy Dean*, *Prince of Wales*, *Agar*, and *Duchess of York*. Then there were spikes of the new *Mignonette alba*, followed by Carnation *Mrs. H. Cannell*, and a charming collection of fancy *Pelargonium* blooms. Amongst the latter were *Prince George*, *Royal Rose*, *Eventide*, *Purple Emperor*, *Princess Beatrice*, *Vivid*, *May Queen*, *Duchess of Portland*, *Lady Duff*, *Black Diamond*, *Ladas*, *Fanny*, *Eden*, and *Mrs. Wright*. The flowers were all cut, and arranged amongst pots of *Maidenhair Ferns*. Messrs. H. Cannell & Sons furnished one of the outside flower beds with a striking mass of the new *Daisy The Bride*, surrounded by a band of blue *Lobelia*. Herbaceous *Calceolarias* from the same firm made a glorious display, as also did the *Cannas*, of which the best were *Duchess of York*, *Paul Lorenz*, *Alphonse Bouvier*, *Aurore*, *Sunset*, *Madame Crozy*, and *Queen Charlotte*.

Messrs. Fromow & Sons, Chiswick, sent a varied collection of *Acers*, including varieties *palmatum roseum*, *marginatum*, *japonicum*, *aureum*, *palmatum dissectum variegatum*, *palmatum dissectum purpureum*, and others, surrounded by a margin of *Eurya latifolia variegata*. The bank was formed outside one of the tents, and interspersed with *Lilium Harrisii*. Several of the flower beds were made gay by Messrs. James Veitch with *Hydrangea paniculata*, *Azaleas* in variety, *Cytisus*, *Acers*, dwarf *Conifers* in ornamental vases, surrounded by *Eurya latifolia variegata*.

Messrs. R. Wallace & Co., Colchester, sent a group of *Lilium longiflorum giganteum* that made a good display. Messrs. Balchin & Son, Hassocks, Sussex, staged a charming group of *Leschenaultia biloba major*, *Boronia serrulata*, *B. heterophylla*, *Erica ventricosa magnifica*, *E. candidissima*, *Phenocoma prolifera*, and *Erica perspicua nana*. Plants of *Pelargonium King of Denmark* came from Mr. Jensen, Chingford, Essex; while Messrs. T. Cripps & Sons, Tunbridge Wells, sent varieties of *Azalea rustica fl.-pl.* The plants were dwarf and well flowered. Messrs. Linden & Co. sent *Philodendron Devansayanum*, Mr. T. S. Boulton, Tyrrell Road, East Dulwich, sending *Pteris Boultoni*.

The rockery arranged by Messrs. J. Backhouse & Sons was very tasteful, Orchids having been utilised with capital effect. Messrs. J. Waterer & Sons, Bagshot, exhibited *Rhododendrons* *Pink Pearl*, *James Mason*, *Minnie*, *Lord Wolseley*, *Sappho*, *Duke of Connaught*, *John Walter*, *Mrs. John Clutton*, *Madame Cochet*, *Strategist*, and *Mrs. Tritton*, with *Acers palmatum*, *dissectum*, *argenteum*, *ornatum*, *roseum marginatum*, and numerous others.

Mr. T. S. Ware, Hale Farm Nurseries, Tottenham, staged some charming *Pæonies* in pots, besides species, and *Darwin Tulips* in great variety. The plants of herbaceous *Calceolarias* exhibited by Messrs. J. James & Son, Woodside, Farnham Royal, were splendid, and deserving of great credit. They were dwarf, sturdy, and blooming most profusely. *Clematis Crimson Beauty* came from Messrs. G. Jackman & Co. It is a hybrid of distinct merit. Mr. Empson, gardener to Mrs. Wingfield, Amptill, Beds, arranged an effective group of miscellaneous foliage and flowering plants, such as *Hydrangeas*, *Oncidiums*, *Cattleyas*, *Dendrobiums*, *Carnations*, *Spiræas*, *Amaryllis*, *Anthuriums*, *Palms*, *Ferns*, *Crotons*, *Aralias*, and numerous others. Dwarf and well flowered were the *Azaleas* exhibited by Messrs. B. S. Williams & Co. The varieties comprised *Dr. Moore*, *Rosette*, *Empress of India*, *Reine de Portugal*, *Roi d'Hollande*, and others.

Messrs. Barr & Son, Covent Garden, had a long table occupied by hardy flowers. The arrangement was effective, but the stage was fully narrow for the large bunches staged. There were *Poppies*, *Cheiranthus alpinus*, *Polemonium coeruleum piliferum*, *Heuchera sanguinea*, *Lilium candidum*, *Cypripedium calceolus*, *Pyrethrum* (double and single), *Ajuga reptans atro-purpureum*, *Saxifraga Wallisi*, *Hemerocallis flava*, *Lupins*, *Delphiniums*, *Cornflowers*, *Helianthemums*, *Cytisus*, *Dodecatheons*, *Ixias*, *Phlox G. F. Wilson*, *Gladiolus The Bride*, *Pæonies*, *Ranunculuses*, *German Irises*, and a splendid collection of English *Tulips*. Amongst these were breeders and rectified flowers of the best quality.

Messrs. Paul & Son, Old Nurseries, Cheshunt, arranged a charming exhibit of hardy flowers, comprising *Rhododendrons*, *Pyrethrums*, *Tulips*, *Pæonies*, *Spiræas*, *Weigelas*, *Thalictrums*, and others, with a splendid collection of named *Lilacs*, including *President Grévy*, *Madame Lemoine*, *Marie Legrange*, *alba grandiflora*, *Leon Simon*, *Mathieu Dombasle*, *Madame A. Chatenay*, *Souvenir de Louis Spath*, and others. The same firm also arranged a small rockery. Scores of plants suitable for planting on rockwork were represented, and with the careful arrangement produced a charming effect.

Hardy flowers came in considerable numbers from Messrs. W. Cutbush and Son, Highgate, but the arrangement was somewhat stiff. Amongst

others were noticed *Irises*, *Pyrethrums*, *Cornflowers*, *Tulips*, *Poppies*, *Ixias*, *Pæonies*, *Delphiniums*, *Carnations*, *Lupins*, *Cytisus*, *Asphodels*, *Geums*, *Scillas*, and others. J. T. Bennett-Poë, Esq., Cheshunt, sent half a dozen magnificent plants of *Streptosolon Jamesoni*. The plants were between 4 and 5 feet high, and had been raised from cuttings, rooted in April, 1895.

The Worcester *Clematis* have come to be well-known figures at the Temple Show, and this year Messrs. Richard Smith & Co. maintained their high reputation. The firm have long since learned the secret of growing these popular plants in pots, and it would be difficult to speak too highly of the specimens shown. Blues, whites, and purples tastefully discriminated were made up of such varieties as *Lord Derby*,



FIG 76.—SACCOLABIUM AMPULLACEUM. (See page 461.)

Princess of Wales, *Marie Lefebvre*, *Sensation*, *Lord Nevill*, *Lady Caroline Nevill*, *purpurea elegans*, *Excelsior*, *Bluc Gem*, *La France*, *Venus Victrix*, and *Mrs. George Jackman*, the whole forming a most effective display.

Hardy flowers in pleasing variety were sent by Messrs. J. Cheal and Sons, Lowfield Nurseries, Crawley. The arrangement was telling and very diversified. There were hardy *Azaleas*, hardy *Rhododendrons*, *Lilacs*, *Kerrias*, *Cytisus*, *Acers*, *Prunus*, a rockery containing *Iberises*, *Cheiranthus*, *Saxifragas*, *Ferns*, *Phloxes*, *Lithospermum prostratum* (fig. 79, page 475), *Thriffs*, *Gentiana acaulis*, and others. Besides these the Crawley firm also sent *Violas* *Lord Elcho*, *J. B. Riding*, *Dawn of Day*, *Iona*, *Bridesmaid*, *Max Kalb*, *Rob Roy*, *Ravenswood*, *Goldfinch*, *The Mearns*, *Countess of Kintore*, *Josephine*, *Aurora*, *Royalty*, *Joy*, *Illuminator*, and others.

Messrs. Ant. Roozen & Son, Overveen, Haarlem, Holland, showed a well diversified collection of *Tulips*, comprising many species besides examples of each section of florists' *Tulips*. Mr. B. Ladhams, Shirley, Southampton, showed hardy flowers of thoroughly good quality, but the effect was marred by the heavy system of staging adopted. *Irises*, *Muscari*, *Ranunculuses*, *Erigeron*, *Cornflowers*, single and double *Pyrethrums*, *Aquilegias*, *Lupins*, *Trolliuses*, *Pinks*, *Heuchera sanguinea*,

and others were noticed. A group of new Carnations was staged by Mr. J. Douglas, Great Bookham. The varieties included Mrs. Eric Hambro, Mephisto, Winifred, Braw Lass, Garville Gem, and others.

Gloxinias were sent by Mr. E. Carr, gardener to H. A. Gillett, Esq., Fair Oak Lodge, Bishopstoke. The plants were large, but the range of colouration and the substance of the flowers were not up to the mark. Mr. J. R. Box, Croydon, arranged a bank of magnificent Begonias. Single or double, all were alike good both in leaves and in flowers. Of the doubles we noted Goldfinch, Countess of Pembroke, Model, Aphrodite, Queen of the Begonias, and Novelty were particularly good. Of singles choice might be made of Portia, Kathleen, Brilliant, Bridesmaid, Excellent, Delicata, Hercules, and Magnitude.

Edwardian floral decorations came from Messrs. W. Edwards & Son, Sherwood, Nottingham; while Messrs. Hugh Low & Co. sent some splendid Cannas. Amongst the best were The Garden, Florence Vaughan, Papa, Konigin Charlotte, Cronstadt, L. E. Bailey, Paul Marquaut, and Jules Favre. Messrs. G. Cooling & Sons, Bath, staged a splendid exhibit of Roses, such as Cooling's Single Crimson Bedder, Laurance Allen, besides a considerable number of bunches of garden Roses. Mr. W. Denman, Covent Garden, sent plants of *Spiræa astilboides floribunda*, a variety of some merit.

Messrs. Young & Dobinson, nurserymen, Stevenage, sent a collection of Violas arranged with Maidenhair Fern. Stevenage Sweep was the most conspicuous variety. Very charming indeed were the *Calochorti* from Messrs. R. Wallace & Co. Amongst the most beautiful were *C. cœruleus roseus*, *C. Benthami*, *C. lilacinus*, *C. albus*, *C. amœnus*, and *C. pulchellus*. From Colchester also were *Iris Susiana*, *Brodiaea capitata*, *B. coccinea*, *B. Howelli*, *Camassia esculenta*, *Dodocatheon integrifolium*, and a singularly beautiful *Fritillaria* named *recurva*. Mr. Arthur Rhodes, Guiseley, near Leeds, sent flowers of *Myosotis Princess Alice*, a variety that is faintly scented.

Messrs. J. Peed & Sons, Norwood, staged Gloxinias in variety. The plants were not large, but the flowers were rich in colour and of good substance. Hardy flowers were splendidly staged by Mr. M. Prichard, Christchurch, Hants. Here was quality with variety. There were *Eremurus robustus*, *Elwesianus*, *Cornflowers*, *Arnebia echioides*, *Trolliuses*, *Saxifragas*, *Heuchera sanguinea*, *Poppies*, *Aquilegias*, *Pyrethrums*, *Pæonies*, *Lupins*, *Hemerocallis*, *Liliums*, *Dianthus*, *Campanulas*, *Cheiranthus*, *Lychnis*, *Phlox canadense* and *Achillea mongolica*.

Messrs. J. Veitch & Sons were somewhat cramped for space, or their hardy plants would have made a much more effective display. The flowers were mostly Tulips and Irises. Amongst the first named were Muret, Gesneriana, Bouton d'Or, Picotee, Summer Beauty, Isabella, with Parrot Tulips Perfecta, Mark Graaff, Constantinople, and Preciosa. Gloxinias also came from Chelsea, and, as may be expected, the quality was first-class. Beautiful were Adela, Orion, Columbus, Mars, Rajah, Sunbeam, Antigone, Virginalis, Sylphe, Nestor, La Belle, Medusa, and Monarch. Then there came a stand of *Streptocarpus Gratus* varieties, in which it was noted how hybridisation is extending the range of colours. Charming little plants of *Lantana Drap d'Or* were very attractive. The collection of *Phyllocactus* from Chelsea was remarkably showy. The plants were well grown, and carrying richly hued fairly shaped flowers. The varieties included Ovis, Ena, Eurasian, Brilliant, and Jessica.

Messrs. W. Paul & Son, Waltham Cross, staged a number of boxes of trusses of *Rhododendrons*, representing many distinct varieties. Lilacs in variety were also sent, with some dwarf plants of *Viburnum plicatum* in pots.

CERTIFICATES AND AWARDS OF MERIT.

Acanthophaenia grandis (L. Linden).—A handsome Palm of graceful habit. The leaves are broad and tapering. The colour is clear green (first-class certificate).

Adiantum lineatum (L. Linden).—Is not this the same *Adiantum* as the one named *Clæsiænum* for which a first-class certificate was awarded two years ago? (award of merit).

Alsophila atro-virens (Sander & Co.).—A remarkably fine and free-growing Tree Fern, with stout fronds and free-branching habit (first-class certificate).

Anthurium triumphans (Laing & Sons).—This is a very fine *Anthurium* with a long spathe of a delicate salmon pink (first-class certificate).

Azalea Diamond (Veitch & Sons).—A fine free flowering hardy Azalea with blush white flowers, the upper portion of which are heavily flushed dull crimson (award of merit).

Azalea mollis Mons. Desbois (Veitch & Sons).—A large flowered hybrid, bright orange red in colour (award of merit).

Begonia Duchess of Fife (J. Laing & Son).—A single of great merit. The colour is delicate rose. The flowers are deeply serrated (award of merit).

Begonia Queen of Begonias (J. R. Box).—A grand double. The flowers are of a pale terra-cotta colour (award of merit).

Begonia Souvenir de Jean Bart (F. Sander & Co.).—Of the Rex type, this *Begonia* is very distinct. The centre is silver-grey, the margins bright green with silver spots (award of merit).

Caladium Duchess of Teck (Peed & Sons).—A medium-sized leaf of greenish white tint, and quite distinct (award of merit).

Caladium Silver Cloud (Veitch & Sons).—This variety is truly named, as the leaves are of a rich silvery whiteness, slightly suffused with crimson (award of merit).

Caladium Duchess of Connaught (Veitch & Sons).—The leaves of

this variety are greenish white, shaded with rose, with veins of the latter tint (award of merit).

Caladium Sir Julian Goldsmid (Veitch & Sons).—The blade of this variety is large with glowing red veins and reticulations; the interspaces are dull white suffused with red (award of merit).

Calamus ciliaris (F. Sander & Co.).—A charming green-leaved plant of dwarf habit with spiny stems (first-class certificate).

Canna Madame Pichon (Paul & Son).—A fine flower of a rich golden yellow tint, heavily spotted with carmine (award of merit).

Carnation Little John (Chas. Turner).—A remarkably fine flower, with large rounded petals of a pleasing rose scarlet hue (award of merit).

Carnation Loveliness (Chas. Turner).—A fine, well-formed flower of a soft coral pink (award of merit).

Carnation Cardinal Wolsey (Chas. Turner).—A large, well-formed flower with yellow ground and scarlet flakings (award of merit).

Carnation The Gift (Chas. Turner).—A handsome yellow ground Carnation with narrow rich crimson border (award of merit).

Carnation Lord Rosebery (C. Blick).—Perfect in shape is this Malmaison. The colour is intense crimson (award of merit).

Carnation Lady Grimston (C. Blick).—A Malmaison of the best type. The ground colour is creamy white, suffused and splashed rose (award of merit).

Carnation Mrs. Eric Hambro (J. Douglas and C. Blick).—Pure white is the colour of this border Carnation. The petals are of splendid substance, and the calyx does not split (award of merit).

Carnation Mephisto (J. Douglas and C. Blick).—Sweetly scented, of fine shape. This is a border Carnation that must become popular. The colour is rich deep crimson (award of merit).

Cattleya Mossie Arnoldiana, Low's var. (H. Low & Co.).—A magnificent *Cattleya*. The sepals are narrow and white, the petals broad and fimbriated. They are white save for a rose suffusion through the centre. The finely fimbriated lip is white veined maroon, and with a yellow throat (first-class certificate).

Cattleya Mossie Beatrice (W. H. Young).—A superb variety. The sepals and petals are rich rose, as is the fimbriated margin of the lip, of which the centre is crimson scarlet. The side lobes and throat are yellow (award of merit).

Cattleya speciosissima Ernesti (A. Hislop).—This is extremely beautiful. The colour is very deep rosy purple in both sepals and petals. The lip is of the same shade marked with crimson. The side lobes are canary yellow (first-class certificate).

Cattleya Mossie C. L. N. Ingram (T. W. Bond).—A *Mossie* of the first quality. The sepals and petals are pale rose. The lip is heavily fimbriated, and has a rich rose-crimson centre, with white margins (award of merit).

Clematis Crimson Beauty (Jackman & Son).—The habit of this *Clematis* is graceful and pleasing, and the elegant dullish crimson flowers are profusely borne on long stalks (award of merit).

Cypripedium Cordeani (W. L. Lewis & Co.).—This is a grand Orchid. The broad dorsal sepal is white at the margins with brown and maroon veins and a centre suffused with green. The pouch and petals are brown tinged with green (award of merit).

Cypripedium Cowleyana Amie Louise (G. W. L. Schofield).—A charming form, showing its niveum blood. The dorsal sepal is white veined with rose, as also are the petals, which are spotted crimson. The pouch is white at the base with claret rose towards the top (award of merit).

Davallia Truffautiana (L. Linden).—The habit of this *Davallia* is very light and graceful. The fronds are long and finely divided (first-class certificate).

Gloxinia Stanstead Gem (Laing & Sons).—This is a fine *Gloxinia* with large violet purple flowers edged with white (award of merit).

Gloxinia Adela (J. Veitch & Sons).—A variety of great merit. The colour is crimson; the throat cream, with crimson spots; while the whole flower has a broad white margin (award of merit).

Hypericum Moserianum tricolor (Sander & Co.).—A charming hardy plant, with leaves edged poinsettia red; the habit is sturdy, and the plant useful for forcing purposes (award of merit).

Iris australis (Kelway & Son).—Both standards and falls of this *Iris* are very rich deep purple. The flower is of good size (award of merit).

Lælia purpurata Arthur Wigan (W. H. Young).—The sepals and petals of this *purpurata* are white, delicately flushed rose. The lip is rose at the outer portion and bright crimson within, with a creamy throat (award of merit).

Lælia purpurata Lewisi (W. L. Lewis & Co.).—Creamy white is the colour of this variety, with the exception of faint rose lines on the lip (first-class certificate).

Odontoglossum crispum Lowæ (H. Low & Co.).—A handsome form with shapely petals, and sepals having large chocolate red blotches (award of merit).

Odontoglossum crispum angustum (L. Linden).—A superb form. The flowers are of medium size, and each of the sepals and petals has a large chocolate blotch with a white margin (first-class certificate).

Odontoglossum crispum guttatum Miss Victoria Ellis (D. Masterton).—A grand variety. The colour is white, save for some chocolate spots on the sepals, petals, and lip (award of merit).

Odontoglossum vexillarium Caneana (Jules Hye-Leyson).—Rich rose is the prevailing colour of this variety. It has a narrow white margin (award of merit).

Odontoglossum expansum (Jules Hye-Leysen).—Densely spotted on a white ground is the description of this Orchid (award of merit).

Oncidium Rogersi giganteum (W. H. Young).—Both size and colour are splendidly accentuated in this Orchid (award of merit).

Philodendron Devansayanum (L. Linden).—A handsome foliage plant, the leaves of which are of a peculiar metallic green hue (first-class certificate).

Phœnix Roebelini (Sander & Co.).—One of the finest of Messrs. Sander's introductions, and a superb decorative Palm of elegant drooping habit (first-class certificate).

Phyllocactus Ena (J. Veitch & Sons).—Orange scarlet, flushed occasionally with bright purple is the colour here (award of merit).

Phyllocactus ovis (J. Veitch & Sons).—This is a large-flowered variety, of a rich rose hue (award of merit).

Phyllocactus elatior (J. Veitch & Sons).—Very intense crimson scarlet is the colour of this Phyllocactus. The flower is of fine shape (award of merit).

Phyllocactus Eurasian (Veitch & Son).—A large-flowered variety, deep orange scarlet in colour, flushed with bright purple (award of merit).

Platyterium Veitchi (J. Veitch & Sons).—A Stag's-horn Fern of much beauty. The fronds have a silvery appearance, owing to the down with which they are covered (first-class certificate).

Pteris Boultoni (T. S. Boulton).—A charming decorative Fern of sturdy habit, with long erectly growing fronds (award of merit).

Pyrethrum Golconde (Kelway & Son).—This is a single variety. The colour is rich scarlet crimson (award of merit).

Rhododendron H. M. Arderne (Paul & Son).—A fine hybrid seedling Rhododendron from Fortunei, with large truss and flowers of rose crimson (award of merit).

Rhododendron Helen Paul (Paul & Son).—A light rose coloured hybrid with substantial truss and large flowers (award of merit).

Rose Grand Duc de Luxembourg (W. Paul & Son).—A Hybrid Tea of great utility for garden decoration. The colour is rose on the outer, and white on the inner side of the petals. In the bud state the colour is rosy carmine (award of merit).

Sonerila Silver Queen (F. Sander & Co.).—The name describes the colour of this plant. The reticulations are green (award of merit).

Trollius caucasicus Orange Globe (M. Prichard).—A grand variety, often growing 3 or 4 feet high. The colour is rich orange, and the flowers are very freely produced (award of merit).

FRUIT AND VEGETABLES.

While plants and flowers were overwhelming in numbers, variety, and richness at this great show, yet both fruit and vegetables were represented in a manner that commanded attention, and evoked in more than one instance surprise and admiration. As some exhibits were composed of both fruits and vegetables, and in one notable case flowers also, the different groups can only be alluded to as they were found, making reference to their predominating features.

Prominent in the large tent, even amidst a gorgeous display of Orchids, Roses, and Clematises—yes, prominent and enforcing attention even there—was the unrivalled group of Nectarine trees in pots, laden with crimson scarlet fruits, from Sawbridgeworth. Messrs. Rivers' collection consisted of twenty-nine trees in only two varieties, and it is safe to say that no other varieties in the world could have produced an equal effect at this season of the year, if at any season. These varieties were *Early Rivers*, certificated a few years ago at the Temple, and *Cardinal*, certificated on the present occasion as an early forcing variety.

Early Rivers is becoming well known by its large, brilliant, and superior fruit, not only as grown under glass, but against walls in the open, and has established its fame as the best early Nectarine up to date for general culture. *Cardinal* is not likely to become of anything like the same general utility, but for its special purpose—forcing—it is the first of all, the fruits ripening ten days earlier even than *Early Rivers*. They are not large, but of good medium size, yet large enough to sell for 30s. a dozen in Covent Garden, as did 1000 fruits last week. The trees carry a greater number than if the fruits were very large, three of the pyramids in the group bearing 100 fruits, one bush tree in a pot forty fruits, and it has borne a similar crop during seven consecutive years. *Cardinal* was raised by Mr. Rivers from Advance Nectarine, but has not hitherto been "sent out" because of its lack of robustness for outdoor culture, and trees will only be distributed (in the autumn) for the particular purpose indicated—forcing and affording the earliest Nectarines obtainable under glass.

We now pass to a remarkable collection of Apples, arranged by Mr. George Bunyard, and associated with them two-year-old pyramid trees in pots, laden with fruits of *Early Rivers* Nectarine, these pyramids having been grown entirely in the open air, the pots plunged in the nursery. The Apples consisted of a hundred dishes or more, in eighty distinct varieties. Many of the fruits were as firm and bright as at a Crystal Palace show in October, and all of the first size. Specially notable were Cox's Pomona, Annie Elizabeth, Belle Pontoise, High Canons, Lane's Prince Albert, Newton Wonder, Alfriston, Striped Beefing, Lord Derby, Hornead Pearmain, Sturmer Pippin, Bramley's Seedling, King of Tomkins County, and Reinette du Canada, while many others were of marked excellence. Such an exhibit would have been considered impossible a few years ago, and it is only fair to say that its equal has not been seen after the middle of May.

Messrs. James Veitch & Sons arranged about sixty dishes of Apples, some of the firmest being Alfriston, Hornead Pearmain, Peck's

Pleasant, Annie Elizabeth, Buckingham, Bismarck, Gooseberry Pippin, Landsberger Reinette, and Pine Golden Pippin. Mr. George Mount, Canterbury, arranged a collection of Apples, mostly small, yet firm and well preserved.

Messrs. Laxton Brothers exhibited fruiting plants and ripe fruits of their new Strawberry Leader, fruits ripen as early as Noble, bright, very firm and excellent, plant having the character of Latest of All. Royal Sovereign Strawberries were exhibited in good form and well packed by Graham Powell, Esq., Horticultural College, Swanley.

Mr. Irving, Leigh House Gardens, Datchet, exhibited Strawberry Duke of York, very large fruits, also a plant in a pot, showing the productive character of the variety. Mr. S. Mortimer, Rowledge, Farnham, had quite an unusual display of Cucumbers, effectively shown in sloping trays, three dozen fruits each of Sensation, dark, and Mortimer's Approved, paler in colour, and not a faulty fruit to be found.

Messrs. James Carter & Co. had not a few small dishes, but huge piles. Long Sword French Bean, Telephone Pea, First Crop Potato, Duke of York Tomato, Extra Forcing Radishes, also Melons, Cucumbers, and sturdy plants of the Carter Spinach. Of the Tomato mentioned, Messrs. Fellows & Ryder, Orpington, exhibited beautifully fruited plants in 10 and 12-inch pots.

Mr. George Featherley, The Vineries, Gillingham, had a compact and meritorious display of Black Hamburg Grapes, Alexander Peaches, Gillingham Perfection Tomatoes, Cucumbers, and first-class French Beans.

Messrs. Sutton & Sons, Royal Berks Seed Establishment, Reading, had a really extraordinary display of fruits, flowers, and vegetables, mostly growing. They filled the whole of the centre of No. 2 tent, or a table run of 120 feet. Along the centre were groups of Tomatoes in pots, and trained in a novel fashion over circular hoops and the like, with a view to demonstrating their value as adjuncts to the dinner or dessert table. Golden Gem, a novelty to be sent out in 1897, a marked improvement on Sutton's Golden Nugget, promises to become most popular, the plants carrying extra heavy crops of rich golden yellow fruit of medium size and superior quality. Sunbeam, another yellow novelty, is also very productive, the fruit in this case being plum shaped. Sutton's Favourite is the name given to another promising novelty, the result of a cross between Perfection and Peach, and apparently possessing some of the best qualities of both parents. Vesuvius was particularly well shown, and may be briefly described as a smooth round Earliest of All, than which no better recommendation can well be given. Empress and Best of All also found many admirers, and Messrs. Sutton may be congratulated upon their success both in raising such sterling novelties and in showing them so well in pots.

New running Kidney Beans were another feature in the display. Tender and True was shown in good condition, the plants trained over trellising having abundance of long, straight pods good enough to take prizes at a show. Earliest of All (Sutton's), a distinct variety, is, however, considerably earlier; and though the pods are not so handsome they are plentiful, succulent, and said to cook admirably. Sutton's Eclipse is white seeded, and as shown was carrying grand crops of long, straight, tender pods.

Melons in pots were also arranged along the raised centre, and most of Messrs. Sutton's best early, new, and old varieties were represented. Hero of Lockinge, still one of the most popular varieties in cultivation, was well shown, and this now has its counterpart in a scarlet-fleshed variety, Eureka. Superior varieties of Cucumbers were also represented. Foremost among these must be placed Sutton's Magnum Bonum, a heavy cropping variety, and the fruit long, and of good form. Matchless is equally good, and is one of the best for exhibition purposes.

Peas in pots and boxes were never seen to greater advantage, and the display made cannot but draw attention to the great superiority of the newer varieties of garden Peas over the old stocks. Sutton's Forcing, a dwarf extra early variety, produces a very heavy crop of pods well filled with wrinkled peas of the best quality. This should become a favourite for growing in pots and boxes. May Queen is also an extra early dwarf robust wrinkled-seeded variety. Empress of India, obtained by crossing Ringleader with Telephone, is a first early, attaining a height of 3 feet, pods abundant, long, and densely filled with marrow peas. Excelsior, the result of a cross between American Wonder and Royal Jubilee, is another novelty of great promise, the quality of this and Sutton's Seedling Marrowfat being extra good. Sutton's A1, of which a fine group was also shown, is described as a first early wrinkled-seeded variety, and the pods are extra large and well filled. Early Giant, a 3 feet Duke of Albany, must become a favourite.

In addition to the foregoing, Messrs. Suttons also had grand masses of perfectly flowered plants of their well-known strain of Gloxinias, together with Streptocarpuses, Liliiums, Azalea mollis, Coleuses (prize strain), and masses of border Tulips, Ranunculuses, and superior Lily of the Valley.

Three remarkable collections of vegetables were staged by Mr. H. W. Ward, Longford Castle; Mr. G. Wythes, Syon House; and Mr. W. Empson, Amptill House, occupying a length of about 60 feet of tabling.

Mr. Ward had enormous Leeks, very fine Asparagus, Broccoli, and Lettuce, with White Emperor Onions, forcing Carrots, Peas, Beans, Tomatoes, Potatoes, Cucumbers, and Radishes.

Mr. Wythes' display was great in extent, variety, and excellence, the vegetables being brightened with baskets of good Grapes, as well as a Melon and Strawberries. Potatoes were remarkably fine in this collection, as indeed were Broccoli, Lettuce, Asparagus, Mushrooms, Turnips,

Beet, Tomatoes, Cucumbers, Carrots, Peas, Beans, everything among the thirty or forty kinds.

Mr. Empson's group was very tastefully arranged with produce of the first quality, including wonderful Leeks and Broccoli, with Potatoes, Turnips, Carrots, Tomatoes, Mushrooms, Beans, Peas, Cucumbers, and Radishes. This exhibitor also staged splendidly fruited plants of Royal Sovereign Strawberry, also excellent dishes of Royal Sovereign, Auguste Nicaise, Noble, Sir J. Paxton, as well as a good dish of Brown Turkey Figs.

No awards were attached to the exhibits when this brief record was prepared. They will be found in the official list subsequently furnished.

LIST OF AWARDS.

Gold Medals.—Sir Trevor Lawrence, Bart., for Orchids; Messrs. Sander & Co., for Orchids; Messrs. Sutton & Sons, for vegetables and flowers.

Silver Cups.—Messrs. Rivers & Sons, for Nectarines; H. T. Leon, Esq., for Orchids; Sir F. Wigan, for Orchids; Messrs. J. Veitch & Sons, for new plants, Caladiums, Gloxinias, Japanese plants, &c.; Messrs. W. Cuthbush & Son, for Carnations, cut flowers, &c.; Messrs. Hugh, Low, & Co., for Orchids, Cannas, &c.; Messrs. Charlesworth & Co., for Orchids; Messrs. Backhouse & Sons, for Alpines and Orchids; Messrs. C. Turner, for Roses, Carnations, &c.; W. Paul & Sons, for Roses; the Rt. Hon. Earl Percy, for fruit and vegetables; W. S. Ellis, Esq., for Orchids; Mrs. Wingfield, for fruit and vegetables; Mr. George Mount, for Roses; Messrs. Paul & Sons, for Roses, herbaceous plants, &c.; Messrs. R. Smith & Co., for Clematis; Messrs. J. Peed and Son, for Caladiums; Messrs. W. & J. Birkenhead, for Ferns; Messrs. G. Bunyard & Co., for Apples.

Silver-gilt Flora Medals.—Messrs. Cypher, for Orchids; Messrs. Barr & Son, for herbaceous plants, &c.; J. G. Fowler, Esq., for Orchids; Major Joicey, for Orchids; Earl Percy, for Orchids; Martin R. Smith, for Carnations; Mr. M. Prichard, for herbaceous plants; Messrs. W. Balchin & Sons, for Leschenaultias; Messrs. T. S. Ware & Co., for herbaceous plants and Begonias; Messrs. J. Waterer & Sons, for Rhododendrons; Messrs. Wells & Segar, for foliage plants; Messrs. Perkins & Co., for bouquets; Messrs. J. Kelway & Sons, for herbaceous plants; L'Horticulteur Internationale, for new plants; Messrs. J. Laing and Sons, for Begonias, Gloxinias, Caladiums, &c.; Mr. H. B. May, for Ferns and foliage plants; Messrs. H. Cannell & Sons, for Calceolarias, Gloxinias, &c.; Messrs. J. Carter & Co., for Calceolarias, Gloxinias, &c.; Messrs. B. S. Williams, for herbaceous plants.

Silver Flora Medals.—Messrs. James & Son, for Calceolarias; Messrs. Fromow & Son, for Rhododendrons and Acers; Messrs. G. Jackman, for Roses and herbaceous plants; Mr. W. Rumsey, for Roses; Messrs. Wallace & Co., for Lilies, herbaceous plants; Messrs. Cripps & Sons, for Acers; Messrs. Dobbie & Co., for herbaceous plants; Messrs. Cheal and Son, for herbaceous plants; Messrs. G. Cooling & Son, for Roses; G. H. Rolis, Esq., for Orchids; Messrs. Lewis & Co., for Orchids; Mrs. Wingfield, for a group of plants; Mr. H. J. Jones, for Begonias and Pelargoniums; W. A. Gillett, Esq., for Gloxinias.

Silver Banksian Medals.—Malcolm S. Cook, Esq., for Orchids; Mr. Geo. Mount, for Apples; Mr. S. Mortimer, for Cucumbers; Messrs. Fellowes and Ryder, for Tomatoes; Mr. Eyfe, for Tomatoes; Mr. M. Stevens, for table decorations; Mr. J. Prewett, for table decorations; Horticultural College, for table decorations and Strawberries. Mr. J. R. Chard, for table decorations; Mr. B. Ladhams, for herbaceous and cut flowers; C. Tasker, Esq., for Cannas and Roses; Messrs. A. Roozen, for Tulips.

Silver-gilt Banksian.—Mr. W. Icton, for foliage plants.

Silver-gilt Knightian Medals.—Mr. G. Featherby, for fruit; Messrs. J. Veitch & Sons, for Apples; Earl of Radnor, for vegetables; Messrs. J. Carter & Co., for vegetables.

A ROYAL VISIT.

Late in the afternoon of the first day what may be termed a surprise visit was paid to the show by the Prince and Princess of Wales, the young Princesses, and the Prince of Denmark. In the absence of the President and other members of Council Mr. George Bunyard conducted the Royal party through the tents, Mr. S. T. Wright being very active in making arrangements for their unobstructive progress. Much interest was manifested in the exhibits by the Royal visitors, who expressed their satisfaction with the exhibition, and the facilities afforded for its inspection.

A ROYAL ACCEPTANCE.

We are informed that Her Majesty the Queen has been graciously pleased to signify her acceptance of the whole of the growing Peas that were exhibited in such splendid condition by Messrs. Sutton & Sons, Reading.

THE ROYAL NATIONAL TULIP SOCIETY.

SOUTHERN SECTION. — TEMPLE, MAY 19TH, 1896.

THE season 1896 has been anything but a kind one for the Tulip cultivator; mild and moist weather interspersed with frost, and a very liberal allowance of the fancier's greatest enemy hailstorms, are its chief characteristics. Several growers had their beds much damaged by the hail and frost, in some cases row after row being blighted, and yielding no bloom at all. Since the early part of May the weather has been of such a forcing nature that the Tulip in the South of England is generally

on the wane, the exhibition being fully a week too late for the southern growers.

In the circumstances a very excellent show was seen, the flamed flowers being well marked, the feathered varieties were on the whole disappointing. Some very fine breeders were exhibited, though this class was rather weak as a whole.

For the championship.—In the first class for twelve rectified Tulips, two feathered and two flamed in each class, six stands were staged, and the competition for the first three places was very close, there being very little difference in point of merit. The final award was Charles W. Needham, Esq., Royley, Royton, Manchester, with Sir Joseph Paxton and Samuel Barlow flamed bizarres, William Annibal and Albert feathered bizarres, Chancellor and Adonis flamed bybloemens, Elizabeth Pegg and May Queen feathered bybloemens, Annie McGregor and Mabel flamed roses, Mrs. Lea and Lizzie feathered roses. Second, the Rev. F. D. Horner, M.A., Kirkby Lonsdale, with Sir Joseph Paxton, a noble flower, and Samuel Barlow flamed bizarres; Henry Lowe and Magnum Bonum feathered bizarres, Talisman and Carbuncle flamed bybloemens, Dainty and Charm feathered bybloemens, Mabel, fine, and Madame St. Arnaud flamed roses; Mrs. Atkin, very fine, but spent, and Mabel feathered roses. Third, James W. Bentley, Esq., Middleton, Manchester, with Sir Joseph Paxton, good, and Orpheus flamed bizarres; James McIntosh, fine, and Sir Joseph Paxton feathered bizarres; Talisman, very good, and Beauty of Litchurch flamed bybloemens; Sylvester and Universe feathered bybloemens, Triomphe Royale and Annie McGregor flamed roses, Mrs. Collier and Mrs. Atkin feathered roses. Fourth, Thos. Haynes, Esq., Warwick. Fifth, James Thurstan, Esq., Cannock.

In the class for six rectified; first prize Rev. F. D. Horner with a grand stand, comprising Sir Joseph Paxton flamed, and also one feathered bizarres; Annie McGregor flamed, and Mrs. Atkins, feathered roses; Talisman flamed, and Camp's Seedling feathered bybloemens. Second, James W. Bentley, Esq., with a good stand, including Samuel Barlow flamed, and Wm. Wilson bizarres, Talisman flamed, and Elizabeth Pegg feathered bybloemens; Lady C. Gordon flamed, and Julia Farnese, feathered roses. Third, Thos. Haynes, Esq., with Sir Joseph Paxton flamed, and Sulphur feathered bizarres; Talisman flamed, and Adonis feathered bybloemens; Triomphe Royale flamed and Aglaia feathered roses. Fourth, James Thurstan, Esq.; fifth, Charles W. Needham, Esq. In class 3, first, Mr. G. Edom, West Norwood, with Dr. Hardy flamed, and an unknown bizarre; Mabel and Annie McGregor roses; Adonis and Salvator Rosa, bybloemens. Class 4—Three feathered Tulips. First, J. W. Bentley, Esq., with Hepworth's 93/64 bizarre; Mrs. Pickerill bybloemen, and Sarah Headly rose. Second, C. W. Needham, Esq., with Sir Joseph Paxton bizarre; Elizabeth Pegg, bybloemen; Mrs. Lea, rose. Third, A. Chater, Esq., Sophy Chater, Duchess of Sutherland, Sarah Headly. Three flamed Tulips.—First, Rev. F. D. Horner, with Sir Joseph Paxton, Talisman, and Triomphe Royale; second, T. Haynes, Esq., with Paxton, Talisman, and Triomphe Royale; third, J. W. Bentley, Esq., Samuel Barlow, Talisman, and Annie McGregor; fourth, J. Thurstan, Esq.; fifth, C. W. Needham, Esq.

Six dissimilar breeder Tulips, two of each class.—First, Rev. F. D. Horner with Paxton and a seedling, bizarres; Madame St. Arnaud and Lady Grosvenor, roses; and two seedling bybloemens; all the seedlings in this pan were Mr. Horner's own. Second, J. W. Bentley, Esq., with Queen of England and Mrs. Barlow, roses; Goldfinder and Lloyd's 47, bizarres; Elizabeth Pegg and Leach's Seedling, bybloemens. Third, J. Thurstan, Esq., with Tryphena and another seedling, roses; two seedling bizarres and two seedling bybloemens. Fourth, Mr. G. Edom. Fifth, C. W. Needham, Esq. Three breeder Tulips.—First, Rev. F. D. Horner with Paxton; a seedling bybloemen; and Lady Grosvenor, rose. Second, C. W. Needham, Esq., with R. Yates, Mabel, and E. Pegg. Third, T. Haynes, Esq., with Dr. Hardy, Beauty of Litchurch, and Mabel. Fourth, J. Thurstan, Esq. Fifth, Mr. G. Edom.

The Samuel Barlow prizes for the best pair of Tulips, one feathered and one flamed.—First, C. W. Needham, Esq., with Elizabeth Pegg and Paxton flamed. Second, J. Thurstan, Esq., with Mabel flamed, and Masterpiece. Third, Rev. F. D. Horner with Birdie feathered rose, a seedling of Simonite. Fourth, A. Chater, Esq. Fifth, J. W. Bentley, Esq.

Collections of florists' Tulips, grouped for effect.—First prize, gold medal, Messrs. Barr & Son for a magnificent exhibit. Second, Mr. Geo. Edom. Third, Jas. Thurstan, Esq. Premier feathered Tulip to C. W. Needham, Esq., for his William Annibal in Class 1. Premier flamed Tulip to Rev. F. D. Horner for his Sir Joseph Paxton in Class 5. The tent in which the Tulips were exhibited was much too close and hot.—C. W. N.

BULBS AFTER FLOWERING.—Many persons are at a loss to know what to do with the bulbs of Hyacinths, Tulips, Narcissus, and Jonquils after they have flowered in pots. They think that the bulbs are useless, and consequently throw them away, whereas a greater mistake could not be made, as if planted at the front of the herbaceous border they flower every year, for I cannot say how many of ours have flowered continuously for the last ten years. By planting them at once with the flower spike removed, they are out of the way, and the pots are available for other purposes. We plant them with a trowel, simply removing the crocks from the bottom of the pot. The soil about the roots is useful for them to grow in for some years, until they are replanted. Here they make that part of the garden quite gay when in bloom, otherwise it would be dull.—FLOWER GROWER.



ROSE SHOW FIXTURES IN 1896.

- June 17th (Wednesday).—York.†
 „ 18th (Thursday).—Colchester and Isle of Wight (Ryde).
 „ 24th (Wednesday).—Richmond (Surrey), Reading (N.R.S.)
 „ 25th (Thursday).—Hereford.
 „ 27th (Saturday).—Canterbury, Southsea, and Windsor.
 „ 30th (Tuesday).—Maidstone and Sutton.
 July 1st (Wednesday).—Croydon, Ealing, Farnham, Farningham, and Leatherhead.
 „ 2nd (Thursday).—Bath, Eltham, and Norwich.
 „ 4th (Saturday).—Crystal Palace (N.R.S.)
 „ 7th (Tuesday).—Wolverhampton,† Harrow.
 „ 8th (Wednesday).—Canterbury (Hospital Fête), Chelmsford, Hitchin, Lee,* Newcastle-on-Tyne,† Redhill (Reigate), and Tunbridge Wells.
 „ 9th (Thursday).—Helensburgh, Woodbridge, and Worksop.
 „ 14th (Tuesday).—Westminster (R.H.S.).
 „ 15th (Wednesday).—Ulverston (N.R.S.)
 „ 18th (Saturday).—New Brighton.
 „ 21st (Tuesday).—Tibshelf.
 „ 29th (Wednesday).—Chesterfield.
 „ 30th (Thursday).—Trentham.
 Aug. 5th (Wednesday).—Chester.*
 „ 19th (Wednesday).—Shrewsbury.*

† A show lasting three days. * A show lasting two days.

Any dates not appearing in the present list I shall be glad to publish in the next one.—EDWARD MAWLEY, *Rosebank, Berkhamsted, Herts.*

ROSE PESTS.

I CAN assure "Y. B. A. Z." I was not speaking "without book" in calling the grubs and caterpillars now worrying our Roses the larvæ of moths. The sawfly larvæ have not put in an appearance with me yet; they come later. Of course, all these come from eggs laid on the buds or young leaves. With weevils it is, on the contrary, the perfect insect that damages the Rose, and anyone who has had experience of these pests will recognise their "work" at once, for they eat the whole bud up bodily, and often the surrounding bark as well.

I heard lately from a correspondent a dismal account of the havoc wrought on his standard Teas directly after pruning, in some cases the whole bark of the Rose, buds and all, being devoured. This gentleman was possessed of a book, to which modesty forbids me further to allude, on consulting which (too late for the salvation of his Roses, but not for vengeance) he and his gardener sallied forth after dark with a lantern, and bagged sixty-three weevils (I think it was) the first night on a few plants. He will know the work of *Otiorhynchus* next year as soon as he sees it.

Some gardeners do not know the value of the advice "go at night with a lantern." It is not only the best remedy for weevils, but also in many cases for slugs, snails, and earwigs.—W. R. RAILLEM.

IF anyone wishes to fully appreciate Mr. Foster-Melliar's practical book on Roses they have only to read his theories as the season advances. His chapter on "Pests" is a good one to read just now.—H. V. M.

ROSES CHANGING.

I HAVE a retraction to make; and, judging from to-day's Journal, it is quite time to make it. I said to my friends the Reading gardeners, and "our Journal" has done me the honour to reproduce my remarks (*Journal of Horticulture*, page 418) that I budded climbing *Devoniensis* on a Cheshunt Hybrid, and the result was a crimson Rose, and that a branch had been sent to Mr. George Paul. He had it worked, and reported the word R. M. Henriette. I still held out—I was so sure I had taken the bud from a *Devoniensis*—when my friend, and, I am glad to say, neighbour, Mr. Strange of Aldermaston, came to look at it. He said at once, "R. M. H.!" I said, "Impossible!" He said, "Examine your *Devoniensis* parent." I did so, and found a R. M. H. trained into the midst of it, so that I could hardly see which was which. This quite explained matters, and I think of never being positive again. I did think all along that the thing impossible, but before this could not see my way out of it. Will Mr. Built of Birmingham forgive me if I suggest, in his case, some similar error? I believe it is unheard of, and almost unheard of, for a Rose to change from yellow to scarlet any more than in my own case from white to red.—ALAN CHEALES.

NEW FOREIGN ROSES.

A SOMEWHAT remarkable change has taken place with regard to new Roses. Until within the last few years the autumn lists of some of the foreign Rose growers were looked forward to with considerable interest and anxiety, as such growers as Eugène Verdier and Souper et Notting collected together from the various districts of France the names of those Roses which were announced for distribution each autumn. The plants of these were rarely below 25 francs, and it

involved a considerable expenditure on the part of growers on this side of the Channel to venture upon ordering them; but they did so, and we found them chafing more and more under the loss to which they were exposed.

It was not merely the money they paid for the plants, but they propagated them as quickly as they could to find in a great majority of cases they were not worth the trouble. Perhaps in some instances the growers over-estimated the beauty of their own productions, not intending willingly to deceive; but at last English growers became tired of this process, and then resorted to the practice of selecting only such Roses as were raised by those whose previous productions were a tolerable warrant of success, and leaving others unnoticed; but as one after another of the old and trusted leaders passed away this resource no longer availed them.

When Lacharme, Margottin, Guillot, and others disappeared from the scene of action those who remained were unknown. Then the French raisers appear to have altered their plan. Their autumn lists did not contain the announcements of actually new Roses, so that when I, in accordance with my usual custom, wrote for their catalogues, I only obtained those in which the Roses of the previous autumn and spring had been announced, and it was not until the spring of this year, and after a second application, I received the list that I should have received in former circumstances last October, and instead of the Roses



FIG. 77.—CYPRIPEDIUM CREON. (See page 472.)

having the magnificent prices 25fr. attached to them, they are now priced at 2fr. 50c. and 1fr. 75c.; in fact, they have done what used formerly to be done by English growers; but I am told by those who have purchased them that they are very weakly, and hardly recover the treatment for a couple of years, so that we do not see any of these quite new Roses in stands set apart for that class.

In other respects I do not see much change except it be in this, that whereas the Hybrid Perpetuals used formerly to have the greatest share, now the Teas and Hybrid Teas far outnumber them. There are forty Teas and Hybrid Teas announced, and twenty-one Hybrid Perpetuals; but from these we must deduct some half dozen or more which are of British or American origin. There are besides these certain miscellaneous Roses which cannot be classed under these sections. Some of the French Rose growers have taken in hand the *Rugosa* Roses, to which, however, they have given a new name, *Les Rosiers de Kamtschatka*, and it will surprise many of our English growers that the reason given by one of them, M. Cochet-Cochet, for taking up this section is that of the losses which they suffer from the severe frost, and the desire to get a hardier type of Rose than those which we at present possess. We are so much accustomed to associate France with bright and sunny skies that we overlook the fact that its central regions are far colder than anything we experience, and that the long-continued frosts are a sad trial to the Rose grower. Of course, as we get further south the case altogether changes, and the difficulties to contend with there are occasioned by too great heat.

Before passing on to the other sections, I may mention that the above raiser announces a new Rose (*Souvenir de Pierre Leperdrieux*), which he has the politeness to inform us is dedicated to a great grandfather on his mother's side, a fact which must be most gratifying to al

rosarians. This Rose, which appears to have been a hybrid from the seedling white *Rugosa*, crossed with *Comte d'Eprémesnil* (unknown to me), is described as flowering in bunches from six to thirty, on strong stalks, the colour being bright clarety red, with an odour of Sweet Briar; it continues in bloom from the first bright days of summer until late in the autumn; its profuseness of flowering would seem to indicate some connection with *Polyantha Simplex*, but of course that is not at all perfection.

Another Rose of this section (*Blanc Double de Courbet*) is said to be the first double white genuine *Kamtschatka* Rose which has flowered in Europe. This would imply that it had come from the far East, but I suppose we must wait until they have flowered before we come to any positive decision on the subject. Another curious thing is that there is a mention of both of these Roses having the scent of Sweet Briar, how it obtained it is not said.

Passing on to the classes in which a number of new Roses ordinarily appear, I take first of all the Teas, of which, as far as I can see, twenty-six are announced; the most prolific raisers are evidently Soupert et Notting and Nabonnand, from both of whom we have had good Roses, but no way in proportion to the number they have sent out. The honoured name of Guillot occurs but once, and other raisers whose productions we have welcomed in former years are absent altogether; it is therefore impossible to give a guess as to where the gems are to be found, and so perhaps it will be better to hear what the raisers say for themselves.

Auguste Comte (Soupert et Notting).—A large flower in the style of *Maman Cochet*, whose excellence we all recognise, madder rose colour, the outside of the petals red but darker on the edge, the centre of the flower rosy flesh and yellow; very sweet and floriferous.

Baronne Fanny Van der Noot (Ketten).—A cross between Adam and Adrian Christophle, of not very robust habit, the colour coppery yellow, the outside petals creamy yellow, with rose-coloured reflex.

Cérès (Vve. Schwartz).—A large, full cream-coloured flower, shaded in the middle with pale rose.

Comtesse Bardi (Soupert et Notting).—A cross between *Rêve d'Or* and *Madame Lambert*, a fine full flower, reddish coppery yellow, the centre coral red with golden reflex. Sometimes yellow flowers shaded red appear on the same plant.

Comtesse de Grailly (Puyravand).—A large full flower, satiny white, lightly striped with rose, the reverse of the petals silvery rose.

Comtesse Lily Kinsky (Soupert et Notting).—A cross between *Marie Van Houtte* and *Victor Puilliot*; a very fine mother-of-pearl white flower, shaded with yellow, the centre yellow, sometimes shaded with carmine; very sweet.

Grand Duc Pierre de Russie (Perny).—A large full flower, opening well; pale rose shaded with darker rose.

Isaac Demole (Nabonnand).—A very large erect, full flower; carmine red, deeper in the centre, the edge of the petals having a white line gives the flower a peculiarly elegant appearance.

Léon de Bruyn (Soupert et Notting).—A cross between *Maréchal Robert* and *Rubens*, a large full flower, shape of the *Cabbage Rose*, the outside petals very large of a light pale straw colour, the centre deeper yellow; very sweet, and free flowering.

Madame Borghione (Nabonnand).—Long buds, not quite full; coppery rose; deeper at the base.

Madame Corvasier (Lévêque).—A large, full round flower; a bright coppery yellow colour.

Madame Henri Graire (Lévêque).—Medium sized flower; light yellow shaded with rose and carmine, the centre often dark peach.

Madame V. Siemens (Nabonnand).—Carmine rose coloured flower, erect, large, full, with a long handsome bud; very free flowering.

Maréchal Niel, white (Deegen, jun.).—Precisely in form, habit, and freedom of flowering like the well known and universally admired yellow *Rose*. It is said by the raiser to be creamy white, and identical with the parent in everything except colour.

Mlle. Lucie Joliveau (Soupert et Notting).—Cross between *Comtesse Cuserta* and *Lady Mary Fitzwilliam*; a large, full, well shaped flower; very pale rosy white colour at the base, satiny red and carmine in the centre, in the style of *Catharine Mermet*.

Mlle. Louise Oger (Lévêque).—A large, fine flower, of a pure milk white, very lightly shaded with yellow.

Maria Christina Reine d'Espagne (Perny).—A large, full, graceful flower of a poppy-red colour, inclining to purple.

Marie Louise Puyravand (Puyravand).—A full, large flower, of a citron yellow colour, but streaked with canary yellow at its fading.

Marie Soleau (Nabonnand).—A large, full flower, with a pretty bud, well made and erect, of a beautiful silvery rose colour.

Mons. Albert Patel (Godard).—Cross between *Capuzine* and *Beauté Inconstante*, a partially full flower, of a brick red colour, shaded with gold; the guard petals bright yellow, sometimes shaded with bronze. Very sweet scented, and a remarkable variety.

Princesse de Venosa (Dubreuil).—A large, full flower, well made, and opening well; golden yellow colour, shaded with carmine.

Reine Maria Christina (Aldraew).—Medium size flower, very full, globular, and opening well; yellow orange colour; the interior of the petals very lightly shaded with carmine.

Souvenir de Cathérine Guillot (Guillot).—A large, well made, full flower; in colour varying from a rich carmine red, with orange yellow at the base to an Indian yellow carmine. Very sweet, apparently a remarkable variety.

Souvenir du Père Lalanne (Nabonnand).—A large, full flower, with large petals of a brilliant carmine red colour, and golden in the centre.

The most noticeable thing, I think, in these new Teas is that so many of them are of a dark colour, but the descriptions are so fanciful that it is very hard to imagine what some of them at least are like, and I suppose we must wait to see them.—D., Deal.

(To be continued.)



EVENTS OF THE WEEK.—Horticulturists at Manchester will be busy this week at their annual Whitsuntide show, while Londoners will doubtless visit Olympia in very large numbers on the occasion of the show next Wednesday, Thursday, and Friday. Full particulars may be had of this show from Mr. G. Bick, Garden Superintendent, Olympia.

— WEATHER IN LONDON.—Horticulturists in metropolitan districts are still anxiously looking for the rain, which seems loth to come. Slight showers have been reported from some localities, but the ground everywhere is cracking from drought, and unless rain falls before long crops will suffer considerably. The sunshine during the past week has not been so continued, and some days have been dull and cloudy, with a warm close atmosphere. Early on Tuesday morning there was a drizzling rain, but it fell for only a short time, while there were showers on Wednesday.

— WEATHER IN THE NORTH.—With little variation the heat and drought continued throughout the past week. There was a very slight drizzle on the 14th. Saturday was somewhat dull; Sunday bright, with rather high wind and intense drought. During the night a shower occurred, and gentle rain fell on the morning and forenoon of Monday; the afternoon and evening were dry. On Tuesday morning with a high wind and rising barometer the rain appeared to have passed away.—B. D., S. Perthshire.

— WEATHER AND CROPS IN GUERNSEY.—With the exception of a slight shower now and again in the night we have had no rain to speak of since Christmas, consequently are getting more or less in a dried up state, the crops in the upland districts especially being in need of moisture. Potato digging both in Guernsey and Jersey has already commenced; but except where the soil is naturally moist the crop is coming out very light through lack of rain, but the quality is first-rate. We had a sharp nip of frost on the morning of the 1st, which slightly singed the Potato tops in some places, also some other things of a tender nature; but I do not hear of any material damage being done. The wind has chiefly ranged from E. to N.E. Turnips and Mangolds can hardly be seen as yet, the ground being too dry in most places to allow the seed to germinate. There has been a fair show of fruit blossom of most kinds, but I hear complaints of Pears falling after being apparently well set. The hothouse Tomatoes are coming on very quickly now, and a fair number of parcels have already been sent to England. In another fortnight we shall be exporting freely. Grapes are looking well.—X.

— DEVON AND EXETER GARDENERS' ASSOCIATION.—The Committee has fixed the third Wednesday in July (15th) as the date of the summer outing for the year. The following is the programme as arranged:—To meet at Bedford Circus at eight o'clock, and proceed in four-horse brakes, via Countess Weir, to Powderham. Passing through the Castle gardens, the American garden, and pleasure grounds, the party will rejoin the brakes and proceed, via Starcross and Dawlish, to Teignmouth. At Powderham Mr. Powell will act as conductor through the park and gardens, the consent of Mr. Octavius Bradshaw and Mr. J. G. Drew having been obtained. At Teignmouth a visit will be paid to the Jadoo factory at the quay, and to the gardens and conservatories of Colonel Halford Thompson, where many interesting experiments with Jadoo are now in progress. The party will then be entertained to luncheon by Colonel Thompson at Eastcliff. Leaving by way of Shaldon Bridge the drive will be continued to Torquay, where a meat tea will be served at the Torbay Hotel at five o'clock. The public gardens will be visited after tea. The return journey will be made from Torquay for Exeter direct, via Newton Abbot, Chudleigh, and Kennford, leaving the Torbay at seven o'clock. No tickets can be obtained after Friday, 10th July. Early application is requested to Mr. Andrew Hope, Hon. Sec., 54, High Street, Exeter.

— GARDENING APPOINTMENT.—Mr. W. Christison, late of Homewood, Chislehurst, has been appointed gardener to Mrs. Freshfield, Kedbrooke Park, East Grinstead.

— At the Building Trades Exhibition, held in St. James' Hall, Manchester, Messrs. Messenger & Company, horticultural builders, Loughborough and London, were awarded a silver medal for their glass house exhibit.

— THE WEATHER AND—NO PLUMS.—A Leicestershire correspondent writes:—"We are having and suffering from exceedingly dry weather. Our Plum crop has been utterly destroyed by the frost on morning of the 2nd, when our thermometer fell to 22°."

— BROCCOLI METHVEN'S JUNE.—This is the very latest of Broccolis I have seen this season. Ordinarily of course this spring all the assumed late ones are early, and have turned in several weeks sooner than usual. Model and Late Queen were found heading in abundantly towards the end of April. Methven's June, as I saw it the other day in two gardens, is a free-leaving variety, and the foliage is very crimped. Perhaps that abundance of leafage helps materially to the keeping of the heads somewhat late. In any case there were plenty of plants not likely to be ready for cutting until quite the end of May, or even later, though the weather has been of such forcing description.—A.

— CLIANTHUS PUNICEUS.—This old and somewhat neglected climber is extremely showy when well grown and flowered. Although known to be hardy enough to succeed against a wall in the south of England, my opinion is that an ideal position for it is in a greenhouse, where it can be trained to the roof. The flowers are then freely produced, and are shown off to advantage. During a recent visit to Burford Hill Gardens, near Warwick, I saw a grand plant in full beauty. The wondrous profusion of peculiar scarlet flowers formed a sight to be remembered. The plant was growing in a brick pit about 2 feet square, situated in front of the house under the stage. The rafters of the house were 16 feet in length, and although planted in quite a young state two years previously, the plant had grown to the top of the rafters and had covered much of the available space under two lights, each 4 feet in width. Mr. Jones informed me that the soil used was formed of three parts loam to one of leaf soil, a compost evidently well suited to the requirements of this Clianthus. To all who require a showy climber for a greenhouse, which has the merit of being uncommon as well, I commend Clianthus puniceus.—H. D.

— PRESERVATION OF FRESH FRUIT.—The preservation of fresh fruit is a matter which perplexes many people, and great losses are incurred which could easily be avoided by the exercise of a little common sense and care. The more valuable a fruit is the more difficult it is to preserve. The young fruit, while still on the tree and in a hard, green condition, is, like a leaf, to be looked upon as a kind of chemical laboratory. The separated fruit merely serves as a protection to the seeds within it. All fruits go through a certain ripening process, which is complete when flesh and juice have reached their full development. From this time on the value of the fruit begins to diminish. The aim of preservation is, therefore, to postpone this period, and by artificial means to prevent the ripening process from going on too rapidly. Summer fruits ripen very quickly, while in autumn fruits the chemical processes are not completed with the maturation of the kernel, but continue for a month or so longer, according to the kind of fruit, until complete ripeness is attained. Winter fruits, again, ripen far more slowly, and they are, therefore, best adapted by nature for preservation. Light, air, warmth, and moisture are the chief means by which plant life is furthered; but, on the other hand, says a transatlantic contemporary, are also the chief agents which promote decay. It is consequently necessary, in preserving fruit, to exclude the action of these agents as much as possible. Certain rules should be followed, and the first of these is the careful choice of individual specimens. It is no use attempting to preserve worm-eaten, injured, or crushed fruits, as they only serve as centres from which decay may spread. Under all conditions wounds which break the skin are dangerous. The store-room should be cool and possess an equable temperature, and darkness is also requisite. It is best to keep the fruit loose, spread out on a shelf or floor if possible. If boxes are used the fruit should be wrapped in tissue paper, and each fruit kept separate. In all cases fruits of the same degree of ripeness should be put in the same receptacle, and the stalks must be turned downwards, not upwards, as has been recommended. Fruits with thin soft skins and fine-grained, loose flesh keep best when the air is excluded. These hints apply to fruits preserved for home or for export.

— WAKEFIELD AMATEURS' TULIP SOCIETY.—The sixty-first annual exhibition of Tulips, Ferns, &c., will be held at the Brunswick Hotel, Borough Market, Wakefield, on May 25th and 26th, 1896. The show will be open to the public after two o'clock on the first day, and after 9 A.M. on the second or succeeding days. Admission free.

— ROYAL NATIONAL TULIP SOCIETY.—The exhibition of this Society is announced to be held in the Free Library, Middleton, near Manchester, on Tuesday, the 26th inst. Prizes are offered in thirteen classes, and certificates will be awarded for rectified seedlings. James W. Bentley, Esq., Stakehill, Castleton, near Manchester, is the Honorary Secretary.

— SHIRLEY MUTUAL IMPROVEMENT ASSOCIATION.—The monthly meeting was held at the Parish Room, Shirley, Southampton, on Monday, the 18th inst., Mr. G. T. Harper, J.P., presiding, there being a good attendance of the members. Mr. W. Frank Perkins gave a very interesting lecture on the "Fertilisation of Flowers," illustrated by a powerful limelight lantern, with slides especially prepared for the occasion by Mr. J. Hornell, of the Biological Station, Jersey.

— DEGENERATION OF FRUITS.—Will varieties of fruit degenerate? has long been a mooted question with fruit growers, the trend of opinion being against the Knightian theory. The opposition has been mainly on physiological grounds. But since the discoveries of the operations of minute fungi, which after awhile find a certain variety to be good field for their operations, and which then travel with the young plants raised, the objections are weakening. Physiologically, says a transatlantic contemporary, there is no reason that a variety should wear out; but in practice it is found that something happens, and new varieties are necessary.

— BATTERSEA CHRYSANTHEMUM AND HORTICULTURAL SOCIETY.—On Wednesday, the 13th inst., the members of this Society held the monthly meeting in the frame ground, Battersea Park, under the presidency of Mr. F. Coppin. After some routine business had been concluded the company listened appreciatively to a lecture dealing mainly with the propagation of flowering plants by Mr. A. B. Greenfield, North Street, Wandsworth. This gentleman is Vice-Chairman of the Society, and works assiduously in its interests. He is now offering a handsome silver challenge cup to be competed for by the members. The prize, which was on the table at the meeting, is upwards of a foot in height, and is of elaborate yet chastely beautiful design. It is to go to the winner of the most first prizes at all the shows and competitions throughout the year, and must be won three times before becoming absolute property. It is a prize worth the having.—A VISITOR.

— AN INTERESTING HERBACEOUS FLOWER BORDER.—Amongst the numerous mansions and first-class villas at Harborne, not the least interesting is Oaklands, the commodious residence and grounds of J. B. Manley, Esq. Mr. Manley, who is a lover especially of hardy garden flowers, recently invited the writer to inspect his interesting new herbaceous and alpine garden, which is nurtured under his own personal care, leaving the older established flower garden department to the care of his head gardener, Mr. S. Gibbs. The garden in question was formed about three years ago, and occupies a sloping site. The whole width of a field bordering the richly treed pleasure grounds, consists of two parallel wide borders, with a walk between edged with stones, rockery fashion, and is pleasingly planted with a great variety of choice shrubs, trees, and flowers. It is not, however, the writer's purport to particularise the numerous plants contained in these borders, but more with the view to draw attention to an uncommon display of Bluebells (*Scilla non-scripta*), occupying, as they do, a considerable width of one of the borders, nearly the whole of its length. The Bluebells have occupied the same spot probably for hundreds of years, being on the confines of an old Thorn hedge and ditch, with overhanging old trees; and when the borders were formed for the purpose already indicated, it was by a happy inspiration that the owner left the bulbs *in situ*. They spring up in masses under and between the young trees and shrubs, whilst the foreground is replete with the alpine, thus forming collectively a scene of floral beauty more easy to imagine than describe. It is also worthy of note, that in conjunction with this floral resource, the scene is further enhanced by the presence of several old, gnarled, boled hedgerow trees growing along the outer edging of the border; and one in particular, an Ash, was very interesting, its large, protuberant butt affording spaces for young seedling trees, self sown, comprising such as an Oak, Beech, Wood Nut, and a common Bramble, and with the accompaniment of a vigorous American Blackberry, forming collectively the nucleus of an arboreal curiosity, if left undisturbed, seldom to be found.—W. G.

— A SAD FATALITY.—We regret to announce the untimely death of Mr. S. Mortimer's foreman. The deceased, a man named Knight, had been assisting with the staging of his employer's exhibit at the Temple show, and left Waterloo by the last train on Monday night, and the next morning his body was discovered on the South-Western line near Farnham Station. It is supposed that the deceased was asleep when the train reached Farnham, and foolishly attempted to jump out after it had started.

— ANEMONE RANUNCULOIDES.—One of the most common, as well as most attractive, spring flowers of northern Europe is the Golden Windflower, *Anemone ranunculoides*, which flowers considerably later than the common white Windflower, among which it grows. It is seldom, if ever, found in low flat woods, preferring steep hillsides, where it grows in rich leaf soil in comparatively deep shade. The leaves are smoother, less cut than those of *A. nemorosa*, palmately three or five parted, with deeply toothed almost trifid segments. The stem leaves, forming the involucre, are tripartite, petiolate, shiny green. The flowers, which in favourable positions measure nearly an inch across, are bright golden yellow, from one to three on a stem. The plant grows from 5 to 8 inches high; the creeping rhizome is rather thick and fleshy, producing several leaves.

— FRUIT IN CALIFORNIA.—The "Garden and Forest" says:—"The mild winter and early spring in California have hurried the fruit trees into blossom, so that orchards and vineyards were considerably in advance of what they usually are at this season, when for three successive nights the mercury fell below the freezing point—an almost unparalleled temperature at this season. Of course, in certain sections this will injure the Grape crop, the early Cherries, Peaches, Prunes, Apricots, and other fruits; but it is hardly safe to trust the dispatches which state that half of the Grape crop is ruined. It is interesting to know that fires and smudges which were kindled in many places proved an effectual protection against the frost. Here is a problem for experimenters. It would seem that the resources of modern science ought to be able to warn and protect the tillers of the soil against forces which, if unchecked, bring such overwhelming disaster."

— DEATH OF MR. ANDREW S. FULLER.—We regret to learn from the "Garden and Forest" that this well-known writer on subjects related to agriculture and horticulture died suddenly of heart failure on the 30th ult. at his home in Ridgewood, New Jersey, in the sixty-eighth year of his age. He was the author of several popular books on small-fruit culture and the propagation of plants, and he had recently completed a treatise on Nut culture, which he considered his most important work. He was an authority in some branches of entomology, an enthusiastic student and experimenter in his chosen field, and was absorbed in his favourite occupations until the very hour of his death. He had gathered about him at Ridgewood a choice collection of trees, shrubs, and herbaceous plants, which he grew with rare skill and distributed with unfailing liberality. His orchard of Nut-bearing trees was especially interesting, and it is sad to think that the world will lose the benefit of Mr. Fuller's trained habits of observation as he watched the behaviour of the numerous varieties he was testing and reported on the value of different modes of treating them.

— VENTILATING COOL HOUSES.—I appreciate and enjoy the prettily worded "Flights of Fancy" which Mr. F. Dunn occasionally contributes to the pages of the *Journal of Horticulture*. The salubrious climate of Sussex is evidently well suited to the creation of sprightly thoughts, even when they are connected with such a doleful subject as sinking ships and lost commanders. It may be that having lately lived so far inland I have lost some of my nautical knowledge; still, I am inclined to believe that given a sound ship and good commander it is not the "storm" that the sailor fears so much as the "fog," which obscures the vision of the helmsman, who innocently guides his vessel on to some dangerous rock, there to meet with the sad fate which Mr. Dunn so feelingly bewails. Let me try and remove the fog which obscures the vision of my critic, for he is evidently slightly disconcerted in fancying my previous article on the above subject was advanced as a "newly found" system of ventilation, whereas I simply regarded it as an old one treated as we all like to treat matters—in a somewhat new way. The term "good gardeners" is only a comparative one; the best are always striving for something better, and I am quite certain that plants are yet "coddled" far too much in many gardens. In tendering my thanks to Mr. Dunn for his congratulations, allow me to pen a simple motto, which, if carefully acted upon, will be productive of much good; it is this—Beware of fogs; they are more dangerous than "storms."—H. D.

— DEATH OF MR. GLEDILL COTTAM, SEN.—The recent demise of this horticulturist has removed from our midst one of the oldest and most successful gardeners in the East Riding of Yorkshire. Mr. Cottam was for many years a successful exhibitor of plants and flowers at the great York gala and other exhibitions, and it was he who made the collection of specimen stove and greenhouse plants owned by R. T. Ringrose, Esq., of Cottingham Grange famous. Mr. Cottam has for some years enjoyed a well earned repose at Fern House Villa, Cottingham.—J. P. LEADBETTER, *Tranby Croft*.

— SAXIFRAGA CORIOPHYLLA.—I am greatly indebted to a valued correspondent for kindly drawing my attention to an error in the English name of this plant in my notes on page 392. I was unacquainted with the English name, and searched for it in a well-known and generally accurate work of reference, which gave the name I made use of, "Coris-leaved." My correspondent tells me that "coriophylla" means "leather-leaved," from *corion* (Greek) and *corium* (Latin), meaning "leather." The more euphonious name of "Coris-leaved Rockfoil" must thus be discarded for that of "Leather-leaved Rockfoil," which is quite descriptive of the texture of the foliage.—S. ARNOTT.

— PANSY CULTIVATION.—Mr. Alexander Lister of Rothesay sends us a wee bookie on the above subject. The instructions he gives are very clear, evidently a record of his own routine, which enabled him to win many prizes at leading shows. He describes his process of raising Pansies from seed and by cuttings, growing the plants, keeping them free from insects, also cutting and staging the blooms. He describes Taddy's snuff as the best exterminator of red spider, sulphur and water of mildew, observing that sulphur easily mixes in water by the addition of a little spirits. Mr. Lister adds short chapters on a few other flowers, and even vegetables, the last named appearing a little incongruous, but the writer is evidently a worker also, with small regard for conventionalities, and wishes to be useful where he can.

— THE RATING OF PUBLIC PARKS.—The Master of the Rolls and Lords Justices Smith and Rigby, in the Court of Appeal on Saturday morning, in a deferred judgment, decided that the London County Council, in respect to public parks under its control, is not liable to local rates in respect of their occupation. The question was raised by the Council appealing from the decision of Mr. Baron Pollock and Mr. Justice Wright that they were liable, as hypothetical tenants, to be rated for Brockwell Park; but the three Lords Justices adopted the ruling of the House of Lords, that it was essential to rating that the occupation should be of value beyond what was required to maintain the property, and here it was shown that these parks could only be kept up at a pecuniary loss. There was consequently no margin for rating.

— "NORD HORTICOLE."—The above is the title of a new French monthly gardening magazine, which has recently been started at Lille. It is a neat little periodical of thirty-two pages, in size about 8 inches by 5 inches. It will appear on the 5th of every month, the first number having been issued on the 5th inst. The "Nord Horticole" will be devoted to arboriculture, floriculture, and kitchen gardening; and among its principal contributors are MM. Charles Baltet, Otto Baillif, Paul Hariot, Sallier, Ferd. Cayeux, and Mr. Harman Payne. The new monthly will be the organ of the Northern Chrysanthemum Society of France, and the subscription is 5 francs per annum, but it will be sent gratis to members of that Society. As may be expected the popular flower absorbs a large portion of the first issue. The editor is Mons. V. Bérat, and the offices are at 19, Rue de Pas, Lille.

— COCOA NUT CULTURE IN THE UNITED STATES.—This is on the increase, and even at present there are about 250,000 Cocoa Nut Palms of all ages on the eastern coast of Florida, some 25,000 of which are bearing. According to a recent publication of the United States Department of Agriculture, there are on the shores of Lake Worth some 50,000 trees, old and young, now growing, and nothing can be more picturesque or graceful than the soft, yellowish green leaves of these groves. Many of the leaves are as much as 20 feet long, and as perfect throughout as an ostrich plume. Florida growers bury the Nuts until they sprout, and then plant them in holes some 2 feet deep and 20 feet apart. The sprouted Nuts, says a contemporary, are covered with good earth, and as the plant grows the earth is filled about it until it is level with the surface. The tree is fruitful near the salt water in Florida south of Lake Worth on the east, and Charlotte Harbour on the west, including the quays. It begins to fruit in from five to seven years from the planting of the nut, but when removed inland it is not fruitful and does not thrive; on Key West there are some trees over fifty years old.



AN AMATEUR'S GARDEN—ORCHIDS AS TOWN PLANTS.

AN invitation to visit a city garden took me through streets and squares until I found myself at North Parade, Lincoln, the home of Mr. T. J. Withers. It is not a large garden, only 30 feet by 15, but the number of plants grown in it is wonderful; not an inch of room is wasted. In the garden is a 4 feet brick wall which separates him from his neighbour. About 8 inches from the

top of the boundary wall a shelf is fixed for growing Chrysanthemums—something over a hundred. Mr. Withers intends taking some prizes again in November. The shelves in a span-roof house, 15 feet by 10, were laden with Strawberries producing fine ripe fruit of President and John Ruskin. On one side were Tomatoes growing in pots setting heavy clusters of Frogmore Selected, Red King, Golden Queen, and Warrior. On the stages was a number of greenhouse plants. A lean-to house, 18 ft. by 5 feet, made for flowering Chrysanthemums in, is now full of Tomatoes, giving every appearance of a heavy crop.

In a frame were found a splendid lot of Odontoglossums located for the summer, four dozen plants clean and healthy, some of which have produced beautiful spikes. "Now come up the cockloft and have a look at the Orchids." Climbing a ladder, we come into a house 15 feet by 10, built on the top of the coal-house and wash-house, which is filled with a collection of Orchids as fresh and clean as if grown in the country instead of near large foundries and gas houses. Amongst many in flower were *Oncidium Forbesi*, *O. incurvum*, *O. tigrinum*, *Cypripedium barbatum*, showing sixteen flowers; *C. Lawrenceanum*, three flowers; *C. villosum*, *C. insigne*, also *Odontoglossum crispum*, *O. vexillarium*, showing twelve spikes. I also noticed healthy examples of *Adas*, *Sophranitis*, *Laelias*, *Calanthes*, *Cœlogynes*, *Lycastes*, several plants of *Dendrobium nobile*, one in an hazel basket, which, when photographed (fig. 78) carried over 600 flowers, and is now making sixty fine new growths. Mr. Withers' treatment of this Orchid is very simple. When making its growth in the Orchid house it is given liquid manure occasionally, and at the end of September is moved into the greenhouse, which often falls to 40° at night. It is taken back into heat again the first week in January for flowering. Ferns are associated with the Orchids, and the stage is edged with *Panicum variegatum*. What splendid town plants Orchids are.

The back wall is covered with cork, with *Rex Begonias*, *Ficus repens*, and Ferns growing from the pockets, and having a pleasing appearance. Mr. Withers built his own houses, fixed his own heating apparatus, and grows all his own plants in such spare moments as he can find from the claims of his daily occupation. The results are most creditable, indeed surprising.—C. W. P.

ROYAL EXOTIC NURSERY.

It is now many years since this Chelsea nursery came to be regarded as one of the first establishments for Orchids, but since that distinction was primarily attained there has been no falling back, with the result that the firm of Messrs. J. Veitch & Sons is looked on by numbers of people at the present day as one of the chief mainstays of the Orchid world. Probably all parts of the globe known as being likely to produce these all-desired flowers have

been visited by the Veitchian travellers, and that they have been successful in their wanderings can be amply proved by anyone who cares to visit the nursery. There will be found plants from this quarter and plants from that, the one collection having come from one traveller and a second from another, and many have been the treasures so placed before British orchidists. The work of importation still goes on, and it is hoped that it will do so for an indefinite period, for it appears that there is a never failing stock of gems in these far off lands, and for them all room will be found in the Orchid collections of this country.

Though the progress of Orchid culture has been unceasing at Chelsea the ways and means have varied considerably. New houses have been erected on new and old sites, and every possible precaution has been taken to prevent the plants suffering from the effects of the



FIG. 78.—AN AMATEUR'S DENDROBIUM NOBILE.

smoke-permeated atmosphere. Not many years ago the well-known Mr. Seden could be seen daily at Chelsea, but now his visits are rare, because both he and his charges have been transferred to a rural home, where, under the influences of the purer air, the plants thrive apace. Thus it is that we hear so seldom of those magnificent hybrids for which the firm is celebrated until they reach the Drill Hall to be seen, and generally, it may be added, to be certificated. They come fresh and rich in colour, varying in form, but always improving in quality, until one involuntarily wonders whether the flow will ever receive a check or cease.

Hybrids and bi-generic hybrids come in a constant stream, and prove how unceasing has been the work of the firm and its assistants amongst these plants. If one wants an Orchid, and does not mind paying for it, that has never before been seen—the result of many years of anxious watching—one may be sure of getting it through Chelsea, for it is probably well within the mark to say that they have always one plant in flower to which the words absolutely new

could be with truth applied. But with these we have nothing now to do, save to hope that they will continue to come to delight all who see them by the many excellent qualities they possess, for they are sure to be widely welcomed. Just now it is with Chelsea and its plants, tended by Mr. Harris, that we would deal, and in doing so refer to a few of those in flower. A few is said advisedly, as it would be impossible to note even a tithe of the whole. Those who are not contented, and indeed those who are, with these notes, should go to Veitch's and see the Orchids and many other things for themselves, and they will come away with pleasure at having seen them, but filled with regret at having to leave them.

Everyone knows the entrance to the Orchid department at the left of the Long Walk. *Odontoglossums* greet us as we enter. Not a few plants, but hundreds, and many of them carrying spikes of flowers fully expanded, while others are yet in the bud state, and will assist in prolonging the display. The plants are strong and clean, the flowers being of good size, shape, and colour. The large majority are specimens of the popular and beautiful *O. crispum*, none named, but several, as compared with those sometimes exhibited under name, well worthy of that distinction. Of course, other sections of the family are represented, and a plant of *O. (Miltonia) vexillarium* is very conspicuous. The flower is of good size and exceptional substance, the upper portion being bright rose, and the lower pure white, with the exception of a small yellow patch in the centre. This variety is named *O. v. leucoglossum*.

At all seasons of the year *Cypripediums* are a feature here, but the variety and quality could scarcely be better than at the present moment. The charming flowers, with the handsome leafage, are alone worthy a long journey to see. The striking *Rothschildianum* at once commands attention, as does the grand *Harrisianum superbum*. Then there are *niveum*, with its chastely beautiful slippers; *Morganiae*, *Eurylochus*, resulting from a cross between *hirsutissimum* and *ciliare*; *Creon*, of which the illustration (fig. 77, page 467) represents a bloom; and a handsome form called *Drurio-Hookeræ*, of which the name denotes the parentage, with many others. In the same structure may be seen the not largely grown *Colax jugosus*, the charming *Anguloa uniflora Turneri*, the chaste *A. u. T. alba*, and the attractive *Dendrobium albo-sanguineum*.

The square structure leading from the long range to the large *Cattleya* house is always refreshingly beautiful with its rocks, its Ferns, and last, but not least, its Orchids. Here are congregated several splendid examples of culture, many of them of considerable size, and all of much beauty. Great sprays of *Oncidium Marshallianum* have a graceful and pleasing effect, which is heightened by the diversity lent by the several *Cymbidiums*. Hanging in a prominent position is a plant of *Dendrobium obscurum*. Why it should have this name is not certain, but may be on account of the lack of knowledge regarding the parentage—at any rate, there is nothing obscure about the flowers. These are borne in long racemes, much after the style of *D. thyrsiflorum*, but the individual blooms are not produced quite so closely together. In colour the resemblance is again apparent, for the sepals and petals are pure white, while the lip is a clear soft yellow. The flower is more pleasing than that of *D. thyrsiflorum*, though it is comparatively safe to surmise this is one of the parents.

Glorious indeed is the display of *Cattleyas* in their roomy abode, in which is found space for many hundreds of plants. Health and strength are manifest in almost every specimen, and their condition justifies the pride with which they are looked on by Mr. Harris as he acts as our conductor. There are divergencies everywhere in colour, in size, in shape, and in substance, but quality is good in all. Immediately facing the entrance is a noble bank of *C. Schröderæ*, comprising several plants of which the most beautiful is *C. S. cœrulescens*. The sepals and petals are of the normal rosy pink colour, but the lip has a peculiar bluish tinge that accounts for the varietal name. The margin of this organ is white, while the throat is pure yellow. More chaste, and possibly to some tastes more beautiful, is *C. S. alba*, of which a fine form is in bloom. Besides these there are *C. Lawrenceana*, *Schilleriana*, *intermedia*, *Skinneri*, *citrina*, and *Mendeli* in considerable numbers, but which must be seen to be appreciated.

Grown with the aforementioned are the *Lælias*, of which the Chelsea collection is very complete. The references made regarding the condition of the *Cattleyas* in the preceding paragraph are equally applicable to the *Lælias*, so they need not now be repeated. Of those in bloom the plants of *Lælia purpurata* are producing the most imposing display by reason of the exceptional quality and richness of colouration in the lip of several of the flowers. The

sepals and petals, too, are very substantial, and stand conspicuously behind the lip. *L. elegans Schilleriana* is plainly perceptible, as are the many specimens of *L. latona*. The peculiar colour of the elegant flowers of this *Lælia* are surprisingly effective in this great house, and are worthy of close attention by all growers. With these we must pass from the *Lælias* to one or two others, and then draw to a close.

Besides those Orchids that have already been mentioned, there are, of course, many others, for as a matter of fact almost all known kinds are represented to a greater or a lesser extent in the Chelsea emporium. Reference has, however, been made to those only that particularly arrested the writer's attention on the occasion of a recent visit, and they were those in flower of course. But as evidence of splendid culture, one should see the *Cattleya Trianae*, the *Dendrobiums* in many kinds and varieties, the *Phalænopsis*, the *Vandas*, the *Aërides*, the *Angræcums*, and others. There one may see perfect leaves or bulbs or both in which is so apparent that goal for which every Orchid grower so incessantly works—good health. It is, as everyone knows, of paramount importance, and here at any rate it is secured.

It is a matter for regret that no Orchids from this establishment are staged at the Temple show, for despite the quality and quantity that are there, we can ill afford to lose the assistance of Messrs. J. Veitch & Sons from any show, much more from this, the greatest of the year. Many people will in all probability, however, spare an hour or two from the Temple to go to Chelsea, and one is perfectly safe in saying that the time there spent will be amply repaid.

GLEBELANDS.

HAVING seen the nurseryman's Orchids it is but fair now to look at an amateur's plants, and those of J. Gurney Fowler, Esq., Glebelands, South Woodford, are thoroughly deserving of a few lines in the *Journal of Horticulture*. The grower here is Mr. J. Davis, and from the prevailing conditions it may readily be seen that he is a first-rate cultivator. At almost every meeting both the owner and the grower with some Orchids may be seen at the Drill Hall, and it is very seldom that they return without having secured some recognition from the Orchid Committee. Generally the exhibit takes the form of a group, and visitors can then see that the grower is almost somewhat of an artist, for his arrangements are generally done in a singularly harmonious manner. Sometimes, as on a recent day, only one plant is brought; but then it need not be said it is a good one. On the occasion hinted at the plant was one of *Dendrobium thyrsiflorum* carrying thirty trusses of perfect flowers.

At Glebelands nine houses of various sizes and styles of building are required to accommodate all the Orchids, and they do not afford by any means too much space. Indeed, if the growth of the collection continues at its present rate more space will soon have to be sought amongst the many other plant and fruit houses on the estate. Almost all the best known families of Orchids are represented in this collection, and the majority of them evidently find their surroundings thoroughly congenial. Not that special structures have been erected for the plants, on the contrary, they are placed in old houses, the skill of the grower having to make up for any little deficiencies in this respect. Some new span-roofed houses were erected a short while back, and are quickly becoming fully occupied with Orchids, though other foliage and flowering plants are also cultivated.

Comparatively speaking, this collection of Orchids is yet in its infancy, only having been instituted between seven and eight years ago, and it is now undoubtedly highly creditable to all concerned. With the owner's enthusiasm and interest the number and quality of the plants have made equal progress, and will, it is trusted, continue in a progressive state. Glebelands is an ideal suburban home within a few minutes' run by train of Liverpool Street, and, notwithstanding the fact that London's fogs must reach Woodford, the Orchids grow remarkably well. Only a short time was at disposal when this visit was made a week ago, but it sufficed for a glance through all the houses and the noting of a few flowers of more than ordinary merit, and to these attention will now for a brief space be drawn.

To the *Cypripediums* shall be accorded the premier position in these notes, not because they are the best or the most extensively grown, but for the reason that they occupied the first structure we entered. *Cypripedium bellatulum album* was, it is perhaps needless to state, the one at the head of the notes, followed by the type as represented by a very beautifully marked form, and such as the

superb *Lawrenceanum Hyeaenum*, *leucochilum*, *grande*, *Lowi*, *Argus*, *ciliolare*, and a particularly fine form of *Lawrenceanum*. These are all well grown, and the same may be said of the scores of *Cattleyas* in the next house visited. There is not a large number of plants in flower, but many buds requiring only a few days to reach maturity. *Mendeli* and *labiatus* comprise the bulk of plants in this spot, though *Lælia anceps*, *Chysis bractescens*, and *Sarcodes Medusæ*, each in capital condition, are also in evidence.

Eucharises first claim attention in another structure; but when we get past the splendid plants we are in the home of *Odontoglossum Roezli*. Here in pots continually standing on wet sphagnum moss the plants grow like weeds, and are there kept until the bud is well advanced, when they are transferred to another position to develop their beautiful flowers. *Vanda teres* finds a corner here, while under the shaded roof *Phaænopsis* have a place. *Odontoglossum crispum* in variety is finely grown, and is now producing a very charming display. Many good varieties are seen, but none is named. Singularly beautiful on the end of the central stage of a large span-roofed structure are the Fox Brush Orchids, above which towers *Phaius Sanderiana* in grand form. The curiously shaped and fragrant *Coryanthes maculata punctata* calls for a word of notice, as also do the *Dendrobium Dalhousianum*, the *Dendrobium Phaænopsis*, and the plant of *Saccolabium ampullaceum* (fig. 76, page 463).

Several months ago Mr. Davis brought to the Drill Hall a remarkable plant of *Vanda cœrulea*, but many visitors on that day will remember it still. The splendid plant was carrying numbers of flowers of probably the richest blue that has ever been seen in a *Vanda* flower in this country. Now the plant is in good condition, and promises to produce another display of equal merit in due course. Magnificent also are the examples of *V. Lowi* and *Sanderiana*, while the plants of *Epidendrum radicans*, *E. O'Brieni*, and *E. Wallisi* are each carrying hundreds of their charming flowers. Three feet six inches by two feet six inches is the size of a basket occupied by a specimen of *Cattleya Trianae*, which must be a beautiful sight when in flower. Besides these are *Lælia purpurata*, *L. elegans*, *L. tenebrosa*, *Walton Grange* variety (not in flower), and several others in the various houses.

The last structure visited is one used apparently as a sort of show house, for in it are to be seen several Orchids of widely differing natures. There are plants of *Cattleya citrina* with their fragrant flowers, a specimen of *Oncidium serratum* with yards of flower spike, varying forms of *Cypripedium insigne*, *Odontoglossum vexillarium* in good form, *O. polyanthum*, and the beautiful *Cattleya Lawrenceana*, with a plant of *Cymbidium Lowianum* now blooming for the first time. The variety is a really good one, the flowers being of fine form, size, and colour. Its solitary spike is carrying a score or more of flowers. Of the plants not in flower, deserving though they are, space cannot be found for mention, so they must stand over until fortune takes another Orchid visitor to Glebelands.

Before concluding, reference may justly be made to the condition as regards cleanliness of the plants, pots, baskets, and the structures. In this respect, many growers might take a lesson from Mr. Davis, for cleanliness prevails throughout, and thus the beauty of the flowers is not marred or totally destroyed, as is sometimes the case, by dirt on the leaves or the receptacles in which the plants are growing. In addition to improving the general appearance, this grower maintains that a clean pot, pan, or basket materially affects the well-being of plants almost, though not of course quite, as much as does the cleanliness of the foliage.—H. W.

JOTTINGS ABOUT WATERING.

UNLESS we are fortunate enough to get copious rains before these lines appear in print, the hose and the water pot will require to be kept constantly going to prevent disaster in the case of many garden crops. Foremost among the many things to claim attention is the watering of wall trees. Already I find newly set fruit on orchard trees is dropping through lack of moisture at the roots; this is a decided warning note that wall trees must be attended to at once. Where they have not already been mulched it is a good plan to mulch before water is given, especially on light lumpy soils.

Having such a soil to deal with I find that almost everything is benefited by the addition of stimulating food whenever water is given, and as we are fortunate in having a tank constantly filled with liquid manure, it is seldom that any crop is watered without using some of it. We do not aim at giving it in a

very concentrated form, only placing a couple of 4 gallon cans full in a 36 gallon barrel, but this is enough to prevent a light soil when constantly watered from becoming poor. I believe that almost all the evils which happen to crops growing in light soil may be traced to want of feeding. Whenever I find anything in a struggling state high feeding becomes the order of the day, and it is not often that the treatment fails. Many a valuable crop of fruit may be saved by liberally watering the trees at once. In the case of Peaches I fear thin crops are more often the result of dryness at the roots at blossoming time or immediately after than of sharp frosts, especially in those instances where slight protection is given.

Peas and Broad Beans among vegetable crops will well repay for close attention in the matter of watering. No matter how bright the weather is, if these are thoroughly watered with liquid manure the very best results may be obtained; indeed, during a season of prolonged drought the skilful and thorough cultivator knows full well that his produce is shown up to the greatest advantage, because it is then that the great test between high-class and slipshod culture comes. Lettuces and Radishes too ought to be freely watered, otherwise the freshness and crispness which is so important is wanting. In regard to Lettuce, during dry weather I find it an excellent plan to keep a few dozens of the earliest plants thoroughly watered. This not only insures the requisite crispness, but also pushes them well ahead of the unwatered plants, and thus secures a succession.

In the flower garden we have been obliged to water freely during the last few days, as *Violas* were plainly showing that such attention was needed; and I have proved over and over again that on our light soil it is only by watering copiously and feeding liberally that they can be flowered successfully throughout the summer. *Myosotis*, *Wallflowers*, *Daisies*, *Silene*, *Pansies*, and *Aubrietias* have all required watering. The *Aubrietias*, however, will endure a considerable amount of dryness at the root without injury. As spring flowering plants we have, I think, nothing to surpass them. *Roses* on walls we have lately watered thoroughly with liquid manure from the tank into which the drainings of the stables are conveyed, and their glossy leaves and fast opening buds show plainly that they like the treatment. *Adam* and *Madame Lambard* have given us our first *Roses* on this year's wood. *Duc de Majenta*, *The Bride*, and *Madame Berard* are following closely.—H. D.

VIOLET CULTURE.

It was my original intention to head this article "Profitable Violet Culture." As a matter of fact, Violet culture partakes very much of the character of a lottery. In some instances the flowers can be profitably grown, but in others there is little pay attached to them. At the same time they are in great demand.

Last season was one of the best on record as far as the grower of open-air Violets is concerned. The plants in most instances commenced flowering in September, and the supply was carried on without a break up till the middle of April. They must have paid very well indeed, or, after deducting working expenses, something like £130 per acre. It is only fair to add that this was not a general experience, owing to the drought of 1895 having nearly killed whole breadths of plants. The other side of the picture is further darkened by the fact that the winter of 1894 and 1895 was a very disastrous one indeed for open-air Violet growers, such a long spell of severe frost reducing all the leaves and buds to pulp. An average profit would, therefore, be anything but attractive, or, say, under moderately favourable circumstances, about £50 per acre.

Less than 1-acre plots are of little avail if wholesale culture is intended, and 3 or 4 acres can be worked more effectively, without a great increase in the working expenses. A very strong soil is not suitable, nor can the plants be depended upon in low-lying positions.

The most profitable beds I have yet met with are on comparatively steep banks sloping south. This would perhaps be about the last spot most beginners would select for Violet culture, and during hot and dry seasons the plants do present a sorry appearance, yet they yield fairly large flowers freely, commencing early and holding out till late in the season. Limestone rock prevails, and the shallow surface soil has abundance of gravel mixed with it. In this particular instance the ground is seldom given a rest, manure is only sparingly ploughed in, no mulching is given, and the hoe is used occasionally for keeping down weeds, as the surface never binds or cracks.

Finer flowers, requiring fewer to the bunch and fetching slightly better prices are produced by plants grown on flatter, richer ground than can usually be found on sloping banks, but the plants suffer during a severe winter.

I find that a comparatively free working, sandy, clayey soil can be made to grow Violets well, but this requires to be rather heavily manured at the outset, or it quickly becomes too poor for them. After the first year a light dressing of common salt and nitrate of soda in equal parts is given, applying this after flowering is over at the rate of 3 lbs. to the square rod, stirred in with hoes. Strong clay soils must be well drained, and, if possible, ameliorated somewhat by a free addition of fine mortar rubbish, sand, burnt clay, and ashes, or anything else that will keep them from running together closely again. These ought to be ploughed or dug in the autumn or early in the winter prior to planting in the spring.

All things considered, there are no single Violets superior to the true Czar. Wellsiana and odoratissima produce finer flowers, but fewer in number, while the hardiness of the plant does not compare favourably with the older favourite. During a showery time in April or the early part of May is the best time to form fresh plantations, and start, where possible, with rooted runners rather than use the old stunted stems. Have the ground in readiness for them, making it fine to a good depth and firm, and dibble out the runners as fast as they are prepared 1 foot apart each way. Sink them well up to but do not bury the hearts, and fix them firmly. Give a watering, if possible, both at planting time and occasionally afterwards, should the weather keep dry, till they are growing strongly. Summer treatment consists in keeping the surface of the soil loose and free of weeds. These young plants will, weather permitting, produce a few extra fine flowers during the season, and if kept free from runners develop into strong plants by the following autumn. In highly manured, much-sheltered gardens the plants become too crowded after the second year, but in the open fields the case is very different. All the same, it is advisable to treat Violets after the plan that answers so well in the case of Strawberries, a succession of younger plants being constantly brought forward to take the place of the worn-out plants destroyed.

It does not pay to employ adults picking and bunching Violets. One man is enough to look after a dozen boys, who soon become proficient in the art. When scarce, or if they are large, a dozen blooms and a leaf or two are enough for a gentleman's buttonhole, increasing the number when they become more plentiful. For ladies' wear larger bunches are formed. When sent direct to the retailers—and this is preferable to selling through commission agents—penny bunches are despatched at the rate of sixteen to the dozen, doubling the charges for the larger bunches. Retailers use their own judgment as to what to charge, and they not unfrequently obtain 2d. for their so-called penny bunches, and 3d. for the larger bunches.

With double Violets there are fewer bad seasons, and they are most popular. There are various forms of these, but most growers find Marie Louise, rich lavender blue, the most reliable. Neapolitan, pale lavender, finds favour with some ladies, and would be more grown if of a more robust habit of growth. The pure white Comte Brazza possesses a good constitution but is a little late in flowering. Private gardeners ought to grow a few dozen plants of it, especially where there is a great demand for buttonhole bouquets in variety. The three varieties named survive in the open through a moderately severe winter, and this spring they are flowering grandly, affording a good succession to those kept in frames and pits, but it is only with the aid of the latter that they can be profitably grown every season. Soon after the plants cease flowering lift, pull to pieces, and prepare for planting. The old centres, if younger pieces are sufficiently plentiful, should be discarded, the latter growing into the best plants. Seeing that these double Violets will not remain long in one position they may be planted 9 inches apart in rows 12 inches asunder. No portion of the hard stems ought to show above the ground. If the soil is of a hot, non-retentive character mulch with short manure, leaf soil, or short grass from the mowing machine. Syringing freely of an evening after hot days will further serve to keep them free of red spider and vigorous.

When growing strongly the plants are apt to be over-free in forming running growths. These ought to be kept pinched off, leaving only about three of the shortest, with plantlets attached, to each. In August peg these to the ground close up to the plant. They will soon root and become part of the clump to be lifted, producing flowers freely. Next spring, or when the time arrives for pulling the old clumps to pieces, the well-rooted young divisions will be found most suitable for propagating purposes, and the old centres can be thrown away. This plan of preparing young plants is the best that either market growers or private gardeners can adopt.

Strong clumps must be ready for lifting, and plants in pits and frames in September or early in October. There should be no forcing and no coddling of Violets in any shape or form. Dispense

with fresh hotbeds. Pits or frames should face the south with a sharp angle. Fill the bottoms with any kind of soil, making it firm, using enough to raise the surface soil to within 1 foot of the glass when this is put on. Not less than 9 inches of fresh loamy compost, with a sprinkling of burnt refuse, should be allowed, and in this firmly plant the Violets (after they have been cleared of superfluous runners), just clear of each other. Give water, and keep them close for two or three days afterwards; freely expose to light and air, ventilating on all mild nights, and drawing the lights off whenever the weather is mild. It is light, sunshine, and air that Violets most need during the dullest part of the year, also taking care to keep them constantly moist at the roots. They ought to be well furnished with blooms and buds when lifted, and if properly managed will continue to develop them in all but the most severe weather, when they should be protected with mats and straw litter.

Avoid as much as possible picking half-opened flowers. One fully opened flower is worth two or three half-grown ones, and it does not pay to pick the latter. We get 3d. for a dozen good blooms, and they are retailed for 6d. or more. With ordinary success each plant should produce not less than two dozen blooms, and we calculate that the produce from a light 6 feet by 4 feet will be 12s. It is a little uncertain though, so much depending upon circumstances.—MARKET GROWER.

A BUSY TIME.

OF all the busy times experienced in the annual routine of garden work, it may, I think, be generally conceded that the last days of May and the early days of June are the busiest. We are now in the rush of vegetation, desirable and undesirable, with all its concomitant duties, and could we but return to those good old days when bedding out was not, or of the simplest description, entailing but little or no anxiety to those good old gardeners, they would, doubtless, at this season have been found very busy. But in spite of a noticeable tendency to throw off the heavy incubus of modern bedding it still exists, and it is just possible, although its bonds are loosened, that it will yet long enough remain a considerable burden.

In some places the pyrotechnic display has given way to the interesting, if more modest, mixture of hardy plants. In others the happy medium blends the new with the old, and a few bright beds adorn the more prominent positions. Long may they continue to do so, even to occasional examples of carpet bedding, for they are good things in their way provided that, as with all good things, we are not surfeited with them. But it is easier to inaugurate a fashion than to annihilate it, and as things are so must they be dealt with. In many places—the majority of gardens—summer bedding is still a primary feature, and in those where spring bedding, too, is of scarcely secondary importance there is now at hand the busiest of busy seasons. It is with the latter—the all-round occupation of the beds—that is the chief concern, for these are invested with dual interest and a twofold anxiety.

With the plans and preparations previously made in relation to this important work it will be taken for granted that all due forethought has perfected them for the occasion. Some have them in their heads, and will probably get them out all right at the fitting time; others have them on paper, where each bed or border finds a place supplemented by a list of the plants available, which will facilitate the work of planting, and possibly prevent any resurrecting to balance matters at the last. Yet the labour remains, and that is now the chief business; the weather, propitious or unpropitious, has to be faced, and that is a great factor.

One feels at this season, and with this work, that there is no waiting. However much circumstances may permit of more elongated operations it is, I think, the desire of all concerned to see the last of the pots, boxes, or in fact of all these things now felt to be usurpers in their temporary quarters, and to see them transferred to their destination—the beds. Between the two positions we are now located, but the moving time is at hand and few there are who care to prolong the job unnecessarily for obvious reasons. Yet any small errors resulting from hasty work, such as ill-prepared beds or careless planting, may entail some penitential reflections hereafter, for, even here, poor work will not pay. We want our bedding (while the fashion lasts) to be at its best—better in fact than it ever has been. Who does not?

To do this we must make an effort (Ah! Dickens, thou inimitable teacher). On the one hand is the spring bedding in all its glory of rosy Silenes, matchless Violas, and late spring flowers kept till the last moment. On the other hand the summer bedding stock, now at that stage when undue retention in the confined space of pots, pans, or boxes cannot but militate against its present

and future welfare, as well as handicapping the more immediate effect of the summer display. To the uninitiated or inexperienced observer the labour entailed, where no makeshift work is allowed to enter into the calculation, is in some places little less than appalling; and to note the transformation that can be effected in a limited time under the controlling bâton of an efficient director may appear almost miraculous. Yet, in this instance, how simple is the work, how smoothly it proceeds, and how satisfactory to all concerned, whether they be those who work or those who watch.

"Can this transformation be thus easily performed on the larger scale?" some may ask; and "Is it the best way taking into account future effects?" Yes; it is the easiest, simplest, and safest, moreover the most satisfactory, whether the drawing-room blinds are down, owing to the London season, or whether your work is exposed to a critical and constant surveillance from start to finish. In the former case a troublesome job (if so thought) is put out of hand in the speediest manner; in the latter, the transition stage, accompanied by a certain amount of disorder, is reduced to the briefest time, and the interruption to normal work is of but the slightest. All in all it is best for everyone and everything, the chief of the latter being the plants, saving perhaps a few exceptions, amounting merely to some trifling details of filling-in later on.

How can this be done—well done—conscientiously carrying out every detail? To my mind the question is of the simplest, depending for its answer on method—systematic labour, for to such it has been, or should have been, resolved into by forethought. This has told us what we have to do, how we have to do it, and what we have to do it with. A trinity of deeds, doing away with all problematic matter, leaving the "head" and his "hands" free for the work. We cannot disregard the weather, but probably many will have, as I have had, to take whatever weather the approaching month is ushered in with, when nothing short of a downpour might longer delay the operation. Fair, dull weather is a boon for the work; showery weather, messing; and continuous bright sunshine the most trying to both plants and planters. Where much trampling is unavoidable on grass, boards or shutters, to be shifted on as the work proceeds, will be of great service in spells of wet.

To state a case in illustration of the text, we will suppose—though, as a matter of fact, it is drawn from experience—that a rather extensive flower garden, occupied with spring flowers till the end of May, is about to be changed into its summer dress, the shifting to commence on the 1st of June. Not too early, certainly, but early enough in some localities, and a good time for all when circumstances demand equal consideration in the enjoyment of both spring and summer bedding. The 1st of June coming this year on a Monday is especially opportune, for there is, I think, a freshness and vigour in attacking heavy work early in the week with undivided attention.

To make a good start some preliminary working arrangements will have already been made, such as mowing the grass—an important item where the beds are situated upon it—and conveying all tools and requisite impedimenta to some rendezvous in the immediate vicinity if necessary. In my particular instance a veteran Chestnut feathered to the ground was for the nonce converted into tool house, dining-room, and office for self and staff. Moreover, under its friendly shade many of the spring bedders required for stock were packed till breathing time allowed of justice being done to them. Being the best part of a mile from the gardens proper all needless running to and fro was regarded as an expense of force. Circumstances, of course, alter cases.

It is now more congenial to me to shunt from the biographical to the hypothetical, and follow our busy "Head" with his "Hands" to the scene of their labours. The latter have not been blind to the preliminaries, and are, now the day has arrived, eager for the fray. *Al fresco* meals, with perhaps violation of ordinary time rules, affect them not. According to weather or according to work, demands upon them, early or late, are cheerfully responded to. It is a busy time. They know it, and they feel it. The start is made; clearing, digging, preparing the soil, and planting goes on simultaneously. Plants are sent for as required, and not allowed to undergo a needless drying process ere they are planted; all empties are at once returned, and to each man is allotted the task he is best fitted to perform. Each bed as it is cleared is thoroughly well worked, and the necessary enriching with leaf mould or manure given to it. The "Head" measures off, marks out, consults his plan. Steadily goes the work without confusion. Watering arrangements as required end the busy day, and probably commence the next. Ere Saturday comes round the work is complete; order reigns; spring has given place to summer; the transformation is complete saving such details as time and weather alone can give, for all has been done in the best possible manner in the least possible time.—HEAD.

GRAPE CULTURE IN ITS COMMERCIAL ASPECT.

(Concluded from page 441.)

It is difficult to conscientiously give a rosy aspect generally to the business of Grape-growing under the conditions as they are at present, and I cannot fairly estimate that in the future there is any likelihood of a rise in the prices of Grapes. There no doubt will be always good and indeed remunerative prices for the very best and special samples, but we all know that such first-grade fruit is a small proportion of the great bulk sent to market. One thing is of comfort to me, and that is that the Vine is not likely to be superseded by any invention or even discovery of man; from time immemorial its produce has been one of the chief bounties that can be won from Nature. The returns to growers may become less, and the true solution of the question of profit is, and must be, improved methods in production.

In Vine growing, as in nearly all producing industries, it is nowadays a disadvantage to have been established long, as then the means employed are nearly always obsolete, and the traditions



FIG. 79.—LITHOSPERMUM PROSTRATUM. (See page 463.)

of the concern hamper new developments; hence is proved my remark, that unless the very serious fact of the annual depreciation of a vineyard, or other fruit-growing establishment, is taken into account, it becomes of little value to sell or let when it has to compete with modern and better equipped places. If the grower has passed through the first steps and arrived at a stage of his venture when Grapes or any other produce that he has grown is ready for market, then comes in one of the most important items in a commercial Grape-growing place, and that is the taking or consigning the fruit to market, and the manner of packing with regard to grading, weighing, and carriage.

Packing will have to depend largely on the method of carriage, whether by train or ordinary horse vans. Time was when Grapes were actually carried on the men's heads all the way to market. By grading I mean the assortment of the fruit according to its quality, leaning always to the side of giving over the sample than even exact, or under, also in carefully putting on the package the net weight of fruit, and that not in too exactly just a manner, but leaning towards the purchaser's favour. I cannot too strongly impress on fruit growers to be most careful about the manner of sending produce to market, not only on account of honour, which makes the foundation of all success worth having, but in order to gain from the very first what is called in all the different markets of all sorts "a good mark." Then as the grower and producer, slowly it may be, builds up and jealously guards a character for his produce, so will his agent have less trouble and get better prices for the produce consigned.

In writing these few remarks on Grape-growing as a commercial industry, I have endeavoured to avoid many details of the question and to treat it broadly. The question to me, and I well know to many who, because they have been born to it, or from circumstances leading them to adopt it as an occupation, abounds in interest, and there are many points on which growers differ widely. The change that has come over the situation commercially in regard to most things is borne out in the case of Grape-growing, and in many instances the alterations have seriously affected the position of individual growers, still the general welfare is better now taking growers, sellers, and consumers all altogether. But the future with regard to its successful commercial side must be with, first, those whose natural position with regard to soil, water, and carriage is best; secondly, with those whose special training and experience gives them immense advantage over the inexperienced, and really one has to sound a note of warning that Grapes or any fruit-growing, as a commercial undertaking, cannot wisely be entered on except by those who have practical experience.

There is plenty of elbow room for all to grow good sound fruit of whatever sort to be consumed in this country, but it is another side to the question whether individuals who embark in the occupation without sufficient knowledge are to be rewarded by much profit.

It seems hard to say so, but it does appear that concerns are getting into fewer and fewer hands, that a harder system is gradually embracing all businesses, that the smaller capitalist by having to take less return on his outlay is more hardly pressed. Now Vine growing is an occupation that will ever depend on individual attention, and as soon as the thorough, thoughtful treatment is neglected, then we cannot expect magnificent results. But Commerce says, Does it pay? Can it be made to pay? and without considering art or skill, proceeds to reduce the production of Grapes to a system, and perhaps getting its 5 per cent., almost ruins the smaller man. That appears to be the course of our business in the near future, and because of the necessary management of large places getting away from a direct personal supervision, the results will often be not first-grade produce. Herein lies the hope, and I believe strength, of smaller places, as they can be more carefully and economically managed, with much more likelihood of growing high-grade produce.

There are many details relating to the establishing and management of a vineyard under glass that one cannot refer to in a short paper that aims principally to give some general ideas only about the subject. The occupation of a Vine grower is one of the most pleasant that can be undertaken; it is full of ever-changing interest. The grower can, from ordinary observation of the Vine, learn many lessons useful in life. There is a perfect organisation in the Vine itself; there is a fruitfulness that is stored the season before it is seen, and is "not to be traced by sight or sound." There is the ripening and the going to rest, and the miracle of coming into life again in the spring.

It is an occupation the result of which is beneficial to mankind, for the fruit of the Vine is one of the most valued, both for those who are ill and those who are well. Many a neighbour, rich and poor, has come to call on me after rising from a couch of pain and extremity to testify to the life-sustaining and restoring powers of Grapes. Everywhere in all ages and times the dietetic and health-giving powers of the fruit of the Vine have been acknowledged, and after all, there lies the strength of the commercial position. Cultivators of the Vine may rest assured that those inherent valuable qualities will ever keep well-grown Grapes the king of fruits.—PETER KAY.

WINTER FLOWERS.

IN many gardens where the area of glass is small there is generally a scarcity of flowers after the Chrysanthemums are over, and this is keenly felt coming after the brightness of the preceding weeks. The craze for "Mums" is to a great extent responsible for this, the quantity grown being in many cases out of all proportion to the size of the place, thus robbing other useful things of the necessary attention, and often crowding them out altogether. I admire the Chrysanthemum as much as most people, but grow no more than I can find room for without injuring anything else.

For the past three years I have been expected to keep up a constant supply of flowers with what I should at one time have considered very inadequate accommodation. We have here no houses devoted to plants alone, the latter having all to be grown in fruit houses, the earliest of which is not started till the middle of February.

Commencing early in October, the side stages of our conservatory are occupied with an arrangement of *Salvia splendens*, *Carnation Margarita*, *Primula sinensis*, *Zonal Pelargoniums*, *Cyclamen persicum*, and dwarf *Chrysanthemums*; these, with the addition of a few small Palms and Ferns, forming a neat if not a very dazzling display. As Christmas approaches these are enlivened by Roman Hyacinths and Paper-white Narcissus.

From this time till the spring is well advanced we are never without Narcissi, ending up the season with *N. poeticus*. I owe much to Mr. Bardney's writings in the *Journal of Horticulture*, but am most thankful to him for the articles he wrote three or four years ago, advising the use of Daffodils for forcing, and they are now indispensable. By the latter part of January a thorough change is necessary, as in spite of the greatest care and attention many of the plants begin to look shabby, and must be removed.

Cinerarias from seed sown during the latter part of May now begin to expand their blooms; these are reinforced by Freesias, Arum Lilies, and Tulips. As we cannot force the Freesias and Arum Lilies very much, we do all we can to forward them during the preceding spring and summer. The former are, when flowering is over, returned to the vinery and placed in as light a position as can be spared for them, and carefully watered, occasionally with weak liquid manure, till the bulbs are ripened. The latter are also kept under cover till signs of ripening are seen. The same plan is followed with *Deutzia gracilis*. Late in July we repot our stock of Freesias and plunge them in a frame, where they start at their own time. The Arum Lilies are also shaken out and repotted when signs of growth are apparent. The earliest of these are placed in a sunny frame in August and gently forwarded, throwing up spikes considerably in advance of any not so treated.

From the time when the Cinerarias commence flowering we never experience any scarcity of flowers. At present we have Cinerarias, Cyclamens, Callas, Pelargoniums both show and Zonal, Clivias, Deutzias, Eupatoriums, Genistas, Heliotropes, Hydrangeas, Spiræas, Lily of the Valley, with Tea Roses in abundance. This short list of winter and spring flowering plants might be easily added to. They are, however, sufficient for our purpose. I prefer growing large numbers of few kinds rather than small quantities of many.—NORTH YORKS.

YOUNG GARDENERS.

THEIR HOURS AND HABITATIONS.

THIS subject is one which no doubt the major portion of the Journal readers have followed with some interest, and the able manner in which Mr. Bardney has championed the young men's cause must certainly deserve the thanks of those for whom he is such an eloquent advocate. Very few head gardeners can complain at the impartial manner in which the matter has been brought forward by him, although it must be said all head gardeners have not the privilege of re-arranging the hours of labour on the lines suggested, because there are cases where other departments of the estate would claim a similar favour, and it is not convenient in every instance always to adopt Saturday half-holidays.

For years past it has been a custom to cease work on Saturday an hour or more earlier than on other days of the week, but the extensive adoption of cricket and football as a Saturday afternoon pastime renders a change necessary to cope with modern ambitions of the younger generations. Without being endowed with the privilege of breaking a rule which has been in force for sixty years or more, I have, at least for a portion of the summer when we are relieved of the family from residence, conformed to the suggestion of allowing the men to work an additional half hour in the evening, leaving at 6 instead of 5.30, and finish at 1.30 on Saturday, with the exception that the one on duty for the coming week remains to do the necessary work of closing, watering, and syringing where this must be done.

This course is much more satisfactory than giving half holidays to those having engagements on Saturdays, saves a deal of friction and inconvenience, which is not generally pleasant. Your correspondent "Another Subordinate" gives vent to his thoughts and the failings of head gardeners rather freely (page 417), apparently forgetting that men are not born head gardeners, but rise to the position from subordinate positions. If the suggestions of your correspondent could be carried out in every garden, what a change would come over gardening as an occupation! I fear, however, that a general acceptance of the rules he would like to impose is not likely to become established fact, for the simple reason that the means are not forthcoming wherewith to do it. If a man has to manage a garden on £300 a year, the same requiring an outlay of perhaps £200 more to carry on the work properly, wherein comes the possibility of providing all the comforts and conveniences "Another Subordinate" would say should be given?

I am quite prepared to think he will gain a good deal of useful knowledge before all these things are universally provided in gardens. Unfortunately, the tendency runs in a downward groove, at least in the gardens of the agriculturist, and I cannot see any immediate prospect of a brighter future. From the last paragraph of his communication one can judge fairly clear that his attainments are pronounced in amusements rather than useful work; he expects more as a subordinate than I ever enjoyed in this capacity or as a head gardener. He is not satisfied without having all the evenings to himself, a holiday for a week or so in the summer or autumn, besides half days to go to cricket and football matches without even asking. If head gardeners are expected to study the young men's "comforts" and "little enjoyments" on the scale suggested by "Subordinate," the staff and expenditure must be considerably augmented in many a garden, and the query that must arise is, Will the young men be the more happy, contented, or better off in the end?

I am not prepared to argue that there are not places where the young men's comforts are sadly out of proportion to the work expected of them, and this sometimes without reasonable cause, but on the other hand there are gardens where the hands of the gardener are tied in the matter

of the bothy and its domestic requirements. I know of cases, too, where young men have been considered in these respects, and yet when work was pressing they would need to be asked to do a half hour's overtime with a grudging response, and again after having served their term, and had other good engagements found for them, they have gone away without returning a word of thanks either verbally or by letter. Young men have their grievances I admit, but head gardeners are by no means exempt.—WILTSHIRE GARDENER.



PORTSMOUTH CHRYSANTHEMUM SHOW.

ON Wednesday, the 13th inst., a meeting was held in the Town Hall, Portsmouth, to consider the advisability of holding a show this autumn. Eventually, after some discussion, it was decided that as subscriptions were very limited it would be better to wait another year. After this another meeting was formed, and M. Gill, Esq., offered £10 towards the starting of a small show in the Victoria Hall.

SHEFFIELD CHRYSANTHEMUM SOCIETY.

AT the general meeting held in the Society's rooms on the 13th May an essay was read by Mr. T. Brewer on the "Adiantum," the subject being treated in a very able manner. His remarks were instructive and interesting, and were fully appreciated by the members. Mr. W. Hannah, Mr. F. Hardy, and others made supplementary remarks on the different varieties grown in our stoves and greenhouses.

The exhibits for this month were herbaceous Calceolarias for the professional members and cut blooms for the amateur members. The exhibits were all good. In the cut blooms were specimens of Orchids, very creditable indeed to the amateur orchidists, *Oncidium Marshallianum*, *Odontoglossum crispum*, and *Dendrobium thyrsiflorum* being the varieties represented. The remainder were *Amaryllis*, *Cactus*, *Calceolaria*, *Spiraea*, and *Petunias*. Mr. C. Shorton was first, Mr. R. Agar second, and Mr. T. Morton third in the professional class; Mr. M. H. Willford first, Mr. G. Walker second, and Mr. R. Gascoigne third in the amateur section.

Mr. H. J. Jones, Rycroft Nursery, Lewisham, having offered two silver and two silver-gilt medals, to be awarded as extra prizes at the next show held by the Society, they were accepted, and arrangements made for the classes to which they are to be awarded. A vote of thanks was passed to W. A. Milner, Esq., of Totley Hall for his kindness in inviting the members on the 18th April to inspect his extensive collection of Daffodils, and for his generosity in entertaining them afterwards. A number of new members was admitted to the Society. Mr. John Haigh presided over the meeting.

LITTLE DIFFICULTIES ON TOPPING AND TIMING.

WILL you kindly let me know if I should allow three shoots to be taken up on the Chrysanthemums that I stopped in March and April, both of early and late varieties? The plants were raised from cuttings inserted during the second week in December, 1895. Should three shoots be taken up now or only one, and then let them make a natural break?

E. Molyneux, raised December, I was told would form crown buds too early (July) if I did not stop the plants, so I stopped them the 25th of April.

How am I to get the first crown bud late on such usually early varieties as *Eda Prass*, *W. Seward*, *Col. Smith*, also *Stanstead White*?

Some cuttings of *Philadelphia* I had from a friend took nearly three months to form roots, and several took two months from the date of insertion. How is one to be definite as to the time of striking in cases like this? *W. Tricker* rooted first, and several late sorts—such as *Boule d'Or*, *R. Owen*, and *Lord Brooke*—took two months, and some much longer, although they were inserted singly in small pots in a frame, and kept close to the glass on a stage in greenhouse, temperature 40° to 55°. Does *Souvenir de Petite Ami* require stopping? I hope you will answer this in your next issue, and oblige a six-years reader.—CHRYSANTH.

[We are always pleased to answer questions in the "next issue" after receiving them when they arrive soon enough for that purpose, but not a few, including the above, arrive one day too late, and this loss of a day means the loss of a week. As we have had an opportunity of consulting Mr. Lees we publish the above questions and the opinion of this successful grower thereon, in the hope that the information embodied may be of service to growers generally, who may have little difficulties of the nature indicated. Mr. Lees says:—

It is much the best to select the three shoots from those which form as a result of pinching the plants early in the season, as you would in the case of those which form at the "natural break," and this applies to all varieties, both early and late, in each section.

The variety *E. Molyneux* gives the best flowers from buds which form about August 13th, and plants pinched on April 25th should give their second crown buds about that date.

To obtain crown buds of *Eda Prass*, *Colonel Smith*, and *Stanstead White*

as late as possible the cuttings should be inserted during the last week in January, and the plants grown steadily in quite a cool temperature, until they are stood outside about the last week in April. *William Seward* will give the best flowers from second crown buds, obtained about the middle of August. *Souvenir de Petite Ami* does not require topping, and buds should not be "taken" before August 20th.

The methods of propagating described seem to be correct, but we cannot understand why some of the cuttings should be so long in forming roots, unless they were very hard or weakly. *Philadelphia* and the varieties named produced roots in about five weeks in a temperature of 45° to 50° during the past season. The cuttings were strong and healthy, about 3 inches in length, and not watered, except at the time of insertion, until roots were formed.]

MR. HORNER'S GARDEN.

(Continued from page 452.)

MR. HORNER'S house is alike substantial and comfortable in size and appointment. The view from the front embraces a pleasing undulated landscape of park, furnished with fine trees, many of noble contour and dimensions, the general slope trending away down to the river Greta. The opposite high and steep bank of the river is clothed for a considerable distance, backed by woods, forming an ever-changing and beautiful feature in the distance. The various shades of green, orange, and olive of the opening buds and leaves, lit up by white masses of wild Cherry blossom and the glorious sunshine, rendered the scene especially beautiful. Later on in leafy June it will have toned down to a more restful monochrome, pleasant to the eye during the heat of summer; and as the season advances the pure air of the district develops the autumn tints to an extent little dreamt of by those living in less favoured localities.

Passing across the lawn, through a thick screen of Yews and other evergreen shrubs, we find ourselves amongst the Tulips in an old time garden with high and massive edgings of Box, every nook and corner being planted with old fashioned flowering plants, which Mr. Horner, in his invitation, described as the "odds and ends." On every side the garden is effectively sheltered. Substantial walls bound the north and east, backed again by a belt of forest trees, which Mr. Horner aptly describes as a filter of the cold winds, taking the sting out of them. On the west side the garden is bounded by a screen of splendid specimen Hollies, 10 feet high, amongst them some extra fine specimens of *Golden Queen*, *Silver Queen*, *myrtifolia*, *latifolia*, and others, were noticeable. This screen answers a double purpose. Of first importance it takes the brunt of the strong gales which occasionally sweep up the valley of the Greta, giving shelter, yet admitting both sunlight and a free circulation of air. On the outer side of the screen the full length of the garden is traversed with a pleasant secluded walk, a sunk fence giving a free unrestricted view of park, river, and the wilder moorland scenery of the Lancashire border beyond.

The Tulips fill eight beds, 50 feet in length, the whole collection exhibiting a fine development of foliage with that glaucous shade indicating perfect health and vigour. The chief novelty in Tulip cultivation, I believe unique in its way, is the Tulip house, 50 feet by 18 feet, a substantial glass roof with open sides, thereby admitting a thorough circulation of air—in fact, so thorough that there is not the slightest indication of the plants being "drawn," and what is most striking to the visitor is that the blooms are no earlier, but later if anything, than those outside. This apparent anomaly is accounted for by the induced circulation of air under the open sides, and the simple and effective system of shading adopted.

This shading consists of laths of deal about 3-16ths inch thick by 1 inch wide, connected together by oblong links of moderately strong galvanised wire securely closed round the laths, and circular connecting rings, giving about half-inch space between the laths. The letting down and rolling up of the sheet is simple and effective. The laths forming the sheets may be any length from 12 feet to 18 feet. The longer lengths require two cords, the shorter require one; the cord being secured at the ridge passing under the shading, back again over a pulley on the ridge. When required to be used the sheets will unroll themselves down the roof of their own momentum. To draw them up, all that is needed is to pull the cords, when the bottom lath turns over on to the next, and so on till the whole sheet winds up in a compact roll, to be again secured by fastening the cord to a hook or nail.

The light admitted through this shading has a most pleasing effect on both foliage and flowers; whilst controlling the fiercest sunshine, it also admits sufficient without danger of scorching. The shadows cast by the laths, like the shadows cast on the sundial, are ever changing their position, but at a faster rate, by reason of the revolution of the earth on its axis, combined with the sun's ever-changing altitude striking the sloping roof, so that when passing between the laths is never shining on the same place with sufficient force to injure the most tender growth. In consequence the elaborative processes are never checked to the same extent as is the case under other kinds of shading, and the growth becomes riper, a matter of the utmost importance considering the shortness of our summers.

These lath blinds are equally as effective as a protection through the frosty nights in winter, not only saving a considerable amount of fuel, also in keeping the temperature more equable than can be done with canvas, mats, and other coverings of that character, which become wet and sodden, are for the purpose something worse than useless. So impressed is Mr. Horner with the economical and effective advantages

of this latb shading, that, in addition to his Tulip house, he has furnished with it his Orchid houses and Auricula houses, and after lengthened trial he speaks of it in the highest praise as being satisfactory in every way.

Coming to the Tulips Mr. Horner may safely congratulate himself on the promise of the general stock. The buds of those coming on were characterised by excellent form, size, and vigour, without the slightest indication of coarseness. We were too early to be able to speak definitely of the general stock of those important features in the "Tulip fancy"—viz, feathering, flaming, and purity. Only one of the beds had flowers fully developed, but those open and showing colour displayed great constancy in all the points requisite of a good bloom, and taking these as a criterion there can be no doubt that Mr. Horner will prove as usual a formidable antagonist wherever he may exhibit. Many of Mr. Horner's own seedlings will take a commanding position in the breeder class, smoothness, form, and colour being combined in them to a remarkable degree. Mr. Horner has been working at seedling bybloemens for many years when this class was weak, especially in feathered flowers, and the result are that sooner or later as the "breaks" occur the class must be considerably strengthened.—AZOTA.

(To be continued.)

SHOW AT OLYMPIA.—MAY 16TH.

ON Saturday last the second flower show of the season was held at this resort, but was not, horticulturally, such a success as its predecessor. The majority of growers could not exhibit owing to the nearness of the Temple show, while others were precluded by reason of the limited notice they had had. Neither of these reasons will tell against the next exhibition, which is advertised to open on the 27th inst.; and Mr. G. Bick, the Garden Superintendent and manager of the show, confidently anticipates a magnificent display, and we trust this hope will be more than realised.

The opening to the public of the new Palmarium and the new gardens was signalled by the flower show on Saturday, and doubtless many people would flock to Olympia in the evening. The new building is an immense one, and, despite the somewhat small number of exhibits, presented a gay appearance. The style of the structure is handsome and substantial; the new grounds covering with the building an area of about 6 acres, are not quite completed, but are already charmingly effective. There is a surround of tall trees and shrubs, with beds and broad promenades in the centre. There are fountains, bandstands, and other attractions, while the whole is lighted by many hundreds of fairy and gas lights. When the gardens are quite completed they will, with those already established, be a very great credit to Mr. Bick, who has laid them out to the best possible advantage. Medals representing money prizes were again accorded, and the quality of the exhibits more than counterbalanced the lack of quantity.

Messrs. J. Laing & Sons, Forest Hill, were large exhibitors. Their stand of hardy flowers was showy, but the best advantage had not been taken in staging of the flowers at command. The receptacles were too crowded to permit of the quality of the produce being thoroughly recognised. There were included Tulips, Scillas, Pæonies, Ixias, Pyretbrums, Lily of the Valley, Lilacs, Gladioli, Irises, and Saxifragas. This received a silver medal. A group of handsome Palms from the same firm occupied one corner of the building, while round one of the Palm pillars of the structure was placed a very beautiful group of miscellaneous flowering and foliage plants. The arrangement was admirable, and the effect light and graceful. Each plant was so placed as to show to advantage either its leaves or its flowers, or both. All the specimens, which included Palms, Ferns, Crotons, Dracænas, Aralias, Gloxinias, Begonias, Ericas, Nicotianas, Malmaison Carnations, Cannas, Statice profusa, Spiræas, Cytisus scoparius Andreanus, with such Orchids as Cattleyas, Odontoglossums, Oncidiums, Cypripediums, and Cymbidium Lowianum, were well grown, the colours in the flowers being especially rich. The highest award, a silver-gilt medal, was given.

A group of Caladiums, a display of shrubs edged with small Azaleas, a table of miscellaneous plants, and a stand of Tricolor Pelargoniums from the same source also received recognition, and all were good. Two silver medals went to the St. George's Nursery Co., Hanwell, for a table of Caladiums and a small exhibit of Zonal and other Pelargoniums, Carnations, Ferns, Asparagus, and Palms. A large silver medal was adjudged to Mr. T. S. Ware, Hale Farm Nurseries, Tottenham, for an arrangement consisting mainly of Pæonies. These were very beautiful, especially such varieties as Geo. Paul, Triomphe de Milan, Vivia, Louise Mouchelet, Comte de Flandre, and Reine Elisabeth. Mr. Collyer, The Hawthorns, Bickley, staged Calceolarias and Ferns, receiving a bronze medal.

The silver-gilt medal awarded to Mr. G. Mount, Canterbury, for his stand of Roses was thoroughly deserved. The flowers were shapely, rich in colour, with clean leafage and delicious fragrance. Amongst the varieties were The Bride, Catherine Mermet, Général Jacqueminot, Maréchal Niel, Captain Hayward, Fisber Holmes, Caroline Testout, Lady Mary Fitzwilliam, Baroness Rothschild, and Prince Arthur, with whole boxes of Mrs. J. Laing, Ulrich Brunner, and La France, scarcely a faulty flower being seen amongst them. Table decorations and floral devices from various sources showed taste and skill on the part of exhibitors.

Perhaps to Messrs. Barr & Sons, King Street, Covent Garden, belongs the honour of making the most imposing individual exhibit. This consisted of one long table occupied solely with hardy flowers in a cut state, the arrangement being very telling indeed. The flowers were of excel-

lent quality, and they were so placed as to show their best points under the first glance. The stand was bigbly creditable to all concerned. There were numbers of varieties of Pæonies in distinct masses, such as Rosy Gem, decora elatior, Sabini, intermedia, the Fern-leaved, with the double white, red, and rose forms of officinalia. Then there were masses of Iris germanica in variety, double and single Pyretbrums, Doronicums, Camassia esculenta, Narcissus Queen of Spain, with the beautiful alpine Phlox, G. F. Wilson, and Saxifraga camposa along the front, and Poppies, Asphodels, and Lupins at the rear. One end of the stand was occupied by Tulips. There were breeder and rectified forms of bizarres, bybloemens, and roses, with Darwins and species in large numbers.



HARDY FRUIT GARDEN.

Strawberries.—*Applying Liquid Manure.*—Immediately the fruit is set and beginning to swell the plants receive great assistance from copious applications of liquid manure. It is not advisable to give it freely to very dry soil until the latter has been first well moistened with clear water or rain has fallen. Liquid manure varies in strength and quality. This should decide whether dilution is necessary, but when the liquid is of a rich dark colour it will be safer to reduce its strength with water or soapsuds, and to apply it frequently, than to give fewer but stronger doses. It is more important that light porous soils should be fairly moist before liquid manure is applied, than strong soils which have more retentive power. Ordinary soil moisture is the medium by which plant food is made soluble and prepared for use, the roots then freely appropriating it. Assistance of this kind can be continued until the fruit changes colour.

Mulching.—Where a surface mulching of strawy litter has not been laid down there will yet be time to apply it, employing material containing short manure as well as long. The earliest crops may have lengths of clean straw laid between the plants for the fruit to rest upon as it ripens.

Thinning.—If fine fruit is desired, and opportunity presents itself, the thinning away of weakly flowers before they set and inferior fruits after may be practised, but affording good support is usually more convenient.

Watering Fruit Trees.—In warm, dry weather a good soaking of water will benefit most fruit trees growing against walls and fences. Attacks of green and black fly are frequently occasioned by a dry condition of the soil. Borders should be frequently examined at various periods for this purpose, and whenever the soil is found to be dry liberally soak it, first with clear water, afterwards with liquid manure. For newly planted trees clear water only is required, unless the growth is weakly. Trees in the open may also require it, light, porous soils needing water sooner and more frequent than heavy, retentive ground. After watering mulch the ground with manure, this being better than constantly watering.

Thinning Fruit.—The fruits of Apricots, Peaches, Nectarines, Plums, Cherries, and Pears are advancing to a size at which it is possible for a commencement to be made in reducing their number where the crop is likely to be heavy. Those which have swelled rapidly to a size larger than others may be retained, cutting out the smallest and weakest. Thinning fruit is best done gradually, going lightly over each tree at one operation, repeating the process after a short interval according to the freedom with which the fruits develop, this being mainly governed by the weather. Stone fruits ought not to have the fruits finally thinned until after stoning, this period proving a critical time, but it is more easily surmounted when a judicious course of preliminary thinning has been adopted.

Syringing Wall Trees.—Syringing the foliage about four o'clock on warm days is very helpful in assisting to keep the growth clean, and in washing off dead petals and young fruits that fail to swell. The forcible ejection of water tends to dislodge insects and encourages a healthy growth. The syringe or garden engine largely prevents serious attacks of red spider. If sulphur is mixed with the water used for syringing, so that a thin deposit of sulphur is left upon the upper or under surface of leaves when red spider is present on them, it will prevent its increase, if not entirely destroy the pest. Sulphur also destroys mildew, applying it as a solution in water or dusting a quantity on the affected parts after syringing. Previous to a general syringing of wall trees the points of any shoots of Peaches, Nectarines, Apricots, Plums, or Cherries attacked with aphides should be dipped in some effective insecticide, such as tobacco water, softsoap solution, or soluble paraffin oil insecticide. Dry tobacco powder dusted on affected shoots with an indiarubber distributor is readily applied, and may be washed off the next day.

Removing Nets and Coverings from Fruit Trees.—The objects sought in employing protecting material for the past few weeks in warding off cold winds and frosts from choice fruit trees will in a few days have been gained, therefore the sooner the materials are removed

the better, so that light and air can fully circulate about the trees, and all cultural operations conveniently be performed.

Disbudding and Thinning Shoots.—Continue this work as opportunity permits, and the production as well as advancement of young shoots show where it is best to retain or discard by rubbing or cutting out. All trees distinctly gain by early but gradual manipulation, doing a little once or twice a week, according as the growth is fast or slow. Vigorous trees demand most attention, and the forwardest parts of all trees should be treated first. This will give time for the lower or less vigorous growths to develop and thus maintain a more equal growth. In equalising the progress of young trees strong branches that show a tendency to extend beyond control may be checked by depressing their points, while the weaker may be encouraged by training more perpendicularly, returning all to their original position when the growths have become regulated in strength.

Hoeing and Cleaning Borders.—Weeds and suckers springing from the soil mar the appearance of a fruit garden to a large extent. The former can be readily laid low by the hoe, while suckers ought to be carefully dug up. Those from the roots of Plum trees are the most troublesome. They frequently appear year after year. The best remedy is to make an examination of the roots, ascertaining the points from which the suckers spring, so that any injured portions may be cut out.

FRUIT FORCING.

Vines.—*Early Forced Vines.*—Where the Grapes are ripe fire heat will only be needed to keep the temperature at about 60° at night, ventilating freely by day. Black Hamburgs will need slight shade, which will also prevent amber-coloured Grapes assuming a brownish hue. Damp the house occasionally, not allowing moisture to be condensed on the berries, but dissipate it by early ventilation. A moderate extent of lateral growth should be encouraged, as it tends to keep the roots active and to prevent the premature ripening of the foliage, which must be kept clean and healthy as long as possible. If the principal leaves fall a prey to red spider, and there are laterals to utilise the sap, it is probable that the axillary buds will be started prematurely. If fermenting materials have been applied to the borders a portion may now be removed, leaving sufficient for a mulch, and if the roots are active in the lower part of the material a little fresh may be placed on the surface to protect them from the atmosphere and impart a neat appearance.

Vines Started at the New Year.—The Grapes are colouring, and need a moderate amount of air moisture until the ripening approaches completion, when a drier atmosphere will be advisable; but moisture must not be entirely withdrawn. Free ventilation should be afforded. A circulation of warm air contributes to good finish and quality. Thorough moisture at the roots is necessary, and a mulch of sweet material will generally secure sufficient moisture until the Grapes are ripe. A night temperature of 65°, a little more on warm and a few degrees less on cold nights, 70° to 75° by day, 80° to 90° with sun heat and full ventilation, closing at 80° all but a small space at the top of the house, will be suitable for ripening.

Early Muscats.—Where Muscat of Alexandria was started in December the crop is now ripening, and the Vines must not lack water at the roots. The temperature should be kept at 65° to 70° at night, 70° to 75° by day from fire heat, and through the day at 80° to 90° from sun heat. Maintain a circulation of air constantly, it being important that water does not become condensed on the berries as a safeguard against "spot," while a warm and rather dry air prevents scalding, and is necessary for securing perfection in Muscats. If the sun is very powerful, and the panes of glass large and clear, a single thickness of herring nets drawn over the roof will break the force of the sun, preventing scorching of the leaves and berries.

Succession Houses.—There is nothing like opening the ventilators early in the morning, admitting air in a safe quantity to pass through the house. By closing early the crops are accelerated in swelling, provided there is a due supply of atmospheric moisture, which can be secured by damping the paths and borders at closing time. Before nightfall a little air should be admitted at the top of the house to allow the pent up moisture and heat to gradually dissipate. Thinning the bunches and berries must be attended to. Remove all surplus bunches unflinchingly. Stop or remove all laterals not required, letting those retained extend where space permits. Supply water or liquid manure to the borders liberally when needed, and encourage surface roots with top-dressings. The night temperature should be kept at 60° to 65°, 70° by day, and 80° to 90° from sun heat.

Late Vines.—Late varieties require a night temperature of 65° to 70° when in flower, and 80° by day, with a free circulation of air but not a drying current, a genial atmosphere being maintained by damping the floor occasionally. It is almost a necessity with the shy-setting varieties to fertilise the bunches. Up to and after flowering the night temperature should be kept at 65°, 70° to 75° by day artificially, keeping at 80° to 85° or 90° through the day, with moderate ventilation in bright weather and abundant air when mild. Remove duplicate bunches, reserving the most compact, and thin the berries. Recently started houses should be forwarded, seeking advancement from sun heat, but allow a free amount of air, especially in the early part of the day, so as to secure sturdy growths and thick leathery leaves.

Planting Growing Vines.—Those raised from eyes in February or March and grown in pots or turves may now be planted out. Such or those put out by the beginning of June will get a good hold of the soil this season, and ripen the cane sufficiently for cutting down to the first

wire of the trellis. Press the soil firmly about the ball or turf, giving a moderate watering, mulching with about an inch of short manure, and shade from bright sun until they become established.

Figs.—*Early Forced Trees in Pots.*—The first crop being gathered from the very early varieties, return to the treatment applicable to trees swelling their crops. Red spider and brown scale usually gain a footing on Fig trees, and play havoc with the second crop. For these pests there is nothing like an insecticide promptly and effectively applied. Where the second crop is thickly set thin liberally, leaving the fruits nearest the base of the shoots, and to insure a full first crop another year be careful not to overtax the trees. Expose the fruit ripening as much as possible, and increase the ventilation.

Panted-out Trees.—The earliest started trees have the fruit ripening, and must not be wetted, but maintain atmospheric moisture by keeping the mulching and paths properly moistened. Supply water at the roots as required. Allow the leading shoots to extend without stopping until they reach the extremity of the trellis.

Late Houses.—Train the growths thinly, allowing every one full exposure to light and air, so as to insure sturdy fruitful wood. Afford copious supplies of water, and syringe twice a day. Admit air early, so as to dissipate the moisture by the time the sun acts powerfully on the house.

THE BEE-KEEPER.

QUESTIONS AND ANSWERS.

THE Editor presents his compliments to apiarian readers, and desires those of them who may need information on any particular subject to be so good as to send their questions direct to the office of the *Journal of Horticulture*. It is contrary to the rules of the office for correspondents to send questions to departmental writers, and for these writers to answer such questions through the post. See notices to correspondents (page 480). Every letter received by the Editor is attended to with the least possible delay. All letters should contain the names and addresses of querists, not for publication unless desired, but in case, for special reasons, a private reply may be deemed advisable.

VAGRANT SWARMS.

I SHALL be pleased if you will render me a little assistance. We have had an empty bee hive in the gardens here for three or four years. Yesterday a swarm of bees alighted on the hive, and in a short time went inside. There were a few old combs in it, in frames, and a little dirt. They seem to be making themselves at home in it, and to-day are flying in and out. Some I noticed with pollen on their legs. Can you tell me what I had best do at once, as I should like to keep them, but am quite a novice in bee-keeping? Also, if "A Lanarkshire Bee-keeper" will please oblige with a few simple details for a learner I shall be much obliged. Is it not something of a novelty for a swarm to do like this? The nearest bees are above a mile away.—HENRI.

[If the bees are still working in the hive, and the combs unaffected with foul brood, afford them protection from the direct rays of the sun and super after honey is plentiful. If the bees previously occupying the hive dwindled through foul brood, transfer the bees to a clean hive and disinfect the old hive thoroughly; that is, if a valuable one, if not burn it. It will be interesting and instructive to others to hear how the bees do in the future.—A LANARKSHIRE BEE-KEEPER.]

CARNIOLAN BEES.

AS far as can be judged from their crushed appearance the specimens forwarded by "D. M." for identification are Carniolans. They are similar in appearance to our native black or brown bee, but are often more grey in colour. They are remarkably good workers, and are considered by some bee-keepers to seal and finish off sections better than any other variety. They are, however, such inveterate swarmers that it is not advisable to increase them. This failing largely discounts their other good qualities, for what is more annoying to a bee-keeper when honey is coming in freely to find his bees all in an uproar with the swarming mania? Carniolans are such adepts at this business, and rearing young queens, that they have been discarded in favour of a strain of good workers, and it may be better stingers, by—AN ENGLISH BEE-KEEPER.

CONTROLLING SWARMING.

IN a hive from which a swarm came on May 7th I observe nine queen cells in different stages of development. Is it advisable to cut out some of the cells, as I do not wish the bees to swarm again this season? I shall feel greatly obliged for any little enlightenment on the subject.—H. N.

[Good results will doubtless be obtained from the parent stock if not allowed to cast or swarm again. All the queen cells but one should be cut out. It is better to leave them until they are sealed over, but care should be taken to select a good bold cell which will contain a fully developed queen, and not to damage it whilst manipulating the bees. If the weather is favourable the queen should be fertilised and laying in about three weeks from the time the hive originally swarmed. By that time the brood will have hatched out, with the exception of a few drone cells.

If honey is coming in freely, a crate of sections may be placed on the top of frames, as many hundreds of bees will be hatching out daily, producing a strong colony of workers, which will at once commence to store a surplus in the supers. If the swarm has been placed on fully drawn out combs, a crate of sections or shallow frames should be given them without delay, and if a strong swarm they will take readily to them, as it is a fact well known to bee-keepers that a natural swarm appears to work with much greater energy than the bees from an ordinary stock, hence the advantage of having early swarms to those who practise the swarming system.

When one is able to obtain early queen cells from a strong colony that has swarmed naturally, the first week in May is of such benefit to the bee-keeper that advantage should be taken of forming nuclei, and requeening all colonies whose queens are more than one year old; and as the young queen should be fertilised and laying before dispensing with the old queen no time will be lost, as the hive will be full of brood in various stages of development, and as each colony will be headed by a young fertile queen the increase of brood will continue to the well-being of the different colonies.

It is a much better plan to work on this system, as we have invariably found the earliest hatched queens to be the best, and prefer to obtain them as early in the season as possible, which generally happens before the end of June. This is better than relying on old queens until they are worn out from old age or other causes.]

QUEENLESS STOCK.

In reply to "E. L." and others, I may be allowed to state that I do not trade in queens, nor in sundries connected with bee-keeping. Being interested solely in the production of honey on rational lines, and having a large apiary in one of the best White Clover districts in the country, it is a pleasure to assist others in the pastime. From experience, I have found that those manufacturers of bee appliances who advertise in the pages of the *Journal of Horticulture* may be relied on to supply the various articles required in an apiary.

"E. L." is unfortunate in having only one stock, and that one queenless. He may obtain a queen from a dealer, but this I do not recommend at this season, as the stock may have been queenless for some time, and when this is the case the bees dwindle away at a rapid rate, and the remaining bees will not take readily to a new queen. It would be better to obtain a swarm, or a frame of young brood, from a friendly bee-keeper. The bees would then rear a queen for themselves, but it would be late in the season before they would be of sufficient strength to store a surplus. The bees would, however, make a strong colony for another season. But if the Heather is within easy reach they would doubtless store a surplus from that source. If a swarm could be obtained they may be united to the queenless stock, which would have the effect of making a strong colony, which would at once commence to store a surplus.

In uniting a swarm with a queenless stock, it is advisable to use care in manipulating them, or fighting will take place, and many bees be lost. All the bees from the queenless stock should be brushed off the frames into an empty skep, afterwards shaking them out into a sheet or mat in front of their future hive, which should be wedged up at the front to allow the bees free entrance. The swarm should be shaken out at the same time all together in front of the hive, and they will run in merrily together. Should they not be inclined to do so a puff or two of smoke will start them, and no fighting will take place; some bee-keepers sprinkle the bees with scented syrup, but it is not necessary. Should the weather be dull after uniting them, they should be fed with thin syrup for a few days; this will at once start the queen laying.—AN ENGLISH BEE-KEEPER.

GARDENERS' CHARITABLE AND PROVIDENT INSTITUTIONS.

THE GARDENERS' ROYAL BENEVOLENT INSTITUTION.—*Secretary*, Mr. G. J. Ingram, 50, Parliament Street, London, W.C.

UNITED HORTICULTURAL BENEFIT AND PROVIDENT SOCIETY.—*Secretary*, Mr. W. Collins, 9, Martindale Road, Balham, London, S.W.

ROYAL GARDENERS' ORPHAN FUND.—*Secretary*, Mr. A. F. Barron, The Royal Gardeners' Orphan Fund, Chiswick, W.



TO CORRESPONDENTS

* * * All correspondence relating to editorial matters should be directed to "THE EDITOR." Letters addressed personally to Dr. Hogg or members of the staff often remain unopened unavoidably. We request that no one will write privately to any of our correspondents, as doing so subjects them to unjustifiable trouble and expense, and departmental writers are not expected to answer any letters they may receive on Gardening and Bee subjects, through the post.

Correspondents should not mix up on the same sheet questions relating to Gardening and those on Bee subjects, and should never send more than two or three questions at once. All articles intended for insertion should be written on one side of the paper only. We cannot, as a rule, reply to questions through the post, and we do not undertake to return rejected communications.

Iron in Water (B. B. H.).—If the iron is not in measurable quantity it will be beneficial rather than the reverse in the water used for your garden. The subject will be more fully referred to next week.

Cypripedium callosum (The Boy).—If potted in a suitable compost and the pots well drained the plant requires plenty of water all the year round. During dull weather, when the external atmosphere is moist, the plants do not of course dry so rapidly, but the roots must never be allowed to get really dry, summer or winter.

Tomato Pit (Kittie).—Why interfere with the pit? Nothing will be gained by raising it, especially seeing that it will be wanted again for other plants next autumn. Plant 15 inches apart along the front, in preference to growing in pots, as being the least trouble, and train up temporary trellising or wattled hurdles 9 inches from the glass. If plenty of air is given whenever the weather is hot, and a circulation admitted during warm nights, abundance of fruit will set, and little or no disease be noticed. A mistake to avoid is leaving the frame closed till it becomes too hot before ventilation is afforded in the morning. Use firm loam, and prevent undue crowding of the growths. We have seen excellent crops grown in the manner suggested.

Oncidium tigrinum (F. F.).—We cannot account for your *Oncidium tigrinum* not flowering if established and thriving as well as you say. Possibly your plant has been overshadowed, for although bright sunshine is injurious to most cool Orchids a clear light is requisite, especially during the winter. Place it in the lightest and warmest part of the cool house, and when finishing the growths allow the atmosphere to get a little drier, but still keep the roots moist. Perhaps you have a ventilator in a convenient place to suspend the plant near it, and if so this plan may be tried, as often Orchids of many kinds are more satisfactory in some parts even of the same house than others. All that we find necessary in the culture of this beautiful *Oncid* is to keep the roots in a healthy condition, and allow it to make its growth in a clear light without scorching. It does not require nearly as much shade as the cool section of *Odontoglossum*, and the water supply must be regulated in accordance with the state of growth.

Disa grandiflora (Montagu).—The imported tuber, or rather root-stalks of *Disa grandiflora*, are sometimes very difficult to establish, while others, no stouter or stronger looking, grow away with the greatest freedom. When they are received it is the safest plan to lay them out in a warmer house than that suitable for established plants, on a moist bottom of shingle in preference to moss. If the shoots you speak of are healthy and green your plants are comparatively safe, and it is quite time they were potted. For compost use two-thirds of sphagnum to one of peat fibre, without any sand or other particle of soil likely to run closely together. Without pouring much water into them, keep the compost just moist and the plants always shaded. They will not, as a rule, begin to root freely until the growth is well advanced, and you must use the utmost care in watering until this time arrives. The ventilation is also important, for it is impossible to grow this, of all Orchids, without air. The point is to have a circulation always going on about them, but not sufficient to dry up the atmospheric moisture. When the growths are getting strong, and it is evident that root action is brisk, increase the water supply, and gradually inure the plants to more air to prepare them for removal to the cool house, when they may be treated as has been advised in these pages for established plants.

Galls on Oak Shoot and Leaves (Anxious Inquirer).—Oak galls, or insects causing them, infest all parts of the tree; some occur on the bark and roots, others on the catkin, acorn, twigs, and leaves. There are two kinds in your specimen—(1) the Oak apple and (2) the Currant gall. The Oak apple is found in May and June on twigs, as an oblong or flattened mass from 1 inch to 2 inches in diameter, is long, covered with a green and red skin, above a layer of soft tissue, in which are embedded numerous larvæ or maggots, each one in a hard-walled

cell or chamber in the centre of the gall. The larvæ are produced from eggs deposited by the common Root-gall fly (*Biorhiza aptera*), which forms galls on the young roots of Oak trees. The root galls vary much in size, and are often crowded into a mass and fused together. Being in the ground they are seldom noticed, but when sought for in autumn they are found to be red, and rather fleshy; if dried they become dark brown and hard. The larvæ in the root-galls become adults in due course, and are dimorphic—a unisexual brood of wingless ant-like flies, and all females, which deposit eggs in the buds of the Oak in the spring, and the hatching of the eggs or emergence of the grubs causes the growth of cellular tissue, in which they become embedded or surrounded, and this stimulus is such as to result in the Oak apple. If you cut through one of the "apples," you will see the cells in which the larvæ are ensconced, there being several grubs or maggots in each "apple." After a time the maggots become full fed, the "apple" dries up, for the larvæ turn into pupæ and need no food. From the pupæ the mature insects emerge during the summer, and this brood possesses both males and females, they being winged. These pair, and the females produce galls on the young roots of the Oak, thus completing the cycle. Thus the insect lives on the roots of the Oak in autumn and winter, and on the part above ground—the buds converted into Oak apples—in the summer. The Oak apple is the gall of the insect named *Dryoterus terminalis*, the maggots of which become flies in a month or two, and these give rise to the galls on the roots, which being concealed are seldom noticed. The Currant galls resemble translucent Currants, pale, with purple or red mottlings, and very juicy, are sometimes very common in May and June on the lower surfaces of Oak leaves, also on catkins, where they look like bunches of Currants. If one of the "currants" or a gall is cut through there will be found a larval chamber in the centre, which is tenanted by a curious maggot. This is easily reared up to the insect (*Spathogaster bascarum*) if the gall is collected when fully mature and prevented from becoming either too dry or mouldy. This is the first annual brood, for like the preceding (Oak apple) there are two, and the second is that of the Oak spangle gall insect (*Neuroterus lenticularis*). The galls of this species are the most curious of Oak galls. They occur on the under surface of leaves, are circular, flat, and thin, though bearing a slight prominence in the middle, and from the surface spring hairs in tufts, very pretty. The larva resides in the centre and in the gall during the winter, the insect emerging in the spring and depositing eggs on the young leaves and catkins give rise to the maggots causing, by the stimulus, the Currant galls. Such is a brief outline of the life history of the gall makers of your specimen. The only means of modifying the infection is to collect and burn the "apples" and "currants." This will not injure the trees in the least as regards the Apple gall, and every gall now removed and burnt means scores of would-be root-gall makers prevented. The Currant galls may also be removed, this not materially injuring the tree, as the attack is usually confined to a portion of the leafage only, and this being more or less injured by the galls would not interfere with the growth, while there would not be any spangle galls. Thus two evils would be more or less obviated. The galls are not considered to do much harm, but that is not consistent with facts, the affected trees being more or less stunted in growth, paler in foliage, and making less progress.

Names of Fruits.—Notice.—We have pleasure in naming good typical fruits (when the names are discoverable) for the convenience of regular subscribers, who are the growers of such fruit, and not collectors of specimens from non-subscribers. This latter procedure is wholly irregular, and we trust that none of our readers will allow themselves to be made the mediums in infringing our rules. Special attention is directed to the following decision, the object of which is to discourage the growth of inferior and promote the culture of superior varieties. In consequence of the large number of worthless Apples and Pears sent to this office to be named, it has been decided to name only specimens and varieties of approved merit, and to reject the inferior, which are not worth sending or growing. The names and addresses of senders of fruit or flowers to be named must in all cases be enclosed with the specimens, whether letters referring to the fruit are sent by post or not. The names are not necessarily required for publication, initials sufficing for that. Only six specimens can be named at once, and any beyond that number cannot be preserved. They should be sent on the first indication of change towards ripening. Dessert Pears cannot be named in a hard green state. (J. L. A.).—Your Apple does not exactly agree with the characteristics of any variety known to us. We suspect it is a local seedling, of which there are many in your district. The reason of the tree only bearing biennially is the exhaustive nature of the crops, and a year is necessary for recuperation and the formation and development of blossom buds. If the crop could be thinned and the soil enriched the tree would bear every year, weather permitting.

Names of Plants.—We only undertake to name species of plants, not varieties that have originated from seeds and termed florists' flowers. Flowering specimens are necessary of flowering plants, and Fern fronds should bear spores. Specimens should arrive in a fresh state in firm boxes. Slightly damp moss, soft green grass, or leaves form the best packing, dry wool the worst. Not more than six specimens can be named at once, and the numbers should be visible without untying the ligatures, it being often difficult to separate them when the paper is damp. (J. C. W.).—*Fraxinus Ornus*, the Flowering Ash. (Q. S.).—1, *Ribes speciosa*; 2, *Sedum pallidum*; 3, *Sedum azoideum variegatum*. (W., Reading).—*Prunus padus* (Bird Cherry). (J. L., Rothsay).—1, *Aërides Fieldingi*; 2, *Adiantum pubescens*; 3, *A. amabile*.

TRADE CATALOGUES RECEIVED.

Dammann & Co., Naples.—*Bulbs and Orchids.*F. Sander & Co., St. Albans.—*Orchids and New Plants.*

COVENT GARDEN MARKET.—MAY 20TH.

TRADE fallen off, with heavy supplies, especially Strawberries.

FRUIT.

	s.	d.	s.	d.		s.	d.	s.	d.
Apples, per bushel	2	0	to	4	Lemons, case	11	0	to	14
" Tasmanians, per	10	0	12	0	Peaches	6	0	15	0
case	1	6	3	0	St. Michael Pines, each ..	2	0	"	0
Grapes, per lb.	1	6	3	0	Strawberries, per lb. ..	1	0	2	6

VEGETABLES.

	s.	d.	s.	d.		s.	d.	s.	d.
Asparagus, per 100	2	0	to	3	Mustard and Cress, punnet	0	2	0	0
Beans, per lb.	0	9	1	2	Onions, bushel	3	6	4	0
Beet, Red, dozen	1	0	0	0	Parsley, dozen bunches ..	2	0	3	0
Carrots, bunch	0	3	0	4	Parsnips, dozen	1	0	0	0
Cauliflowers, dozen	2	0	3	0	Potatoes, per cwt.	2	0	4	0
Celery, bundle	1	0	0	0	Salsafy, bundle	1	0	1	6
Coleworts, dozen bunches ..	2	0	4	0	Seakale, per basket	0	0	0	0
Cucumbers, dozen	1	6	3	0	Scorzoneria, bundle	1	6	0	0
Endive, dozen	1	3	1	6	Shallots, per lb.	0	3	0	0
Herbs, bunch	0	3	0	0	Spinach, pad	0	0	4	6
Leeks, bunch	0	2	0	0	Sprouts, half siv.	0	0	0	0
Lettuce, dozen	1	3	0	0	Tomatoes, per lb.	0	6	1	3
Mushrooms, per lb.	0	6	0	8	Turnips, bunch	0	3	0	0

PLANTS IN POTS.

Arbor Vitæ (various) doz.	6	0	to	36	0	Genista, per dozen	6	0	to	10	0
Arum Lilies, per dozen ..	6	0	9	0	Hydrangea, various, doz. ..	9	0	24	0		
Aspidistra, dozen	18	0	36	0	Ivy Geranium, per dozen ..	5	0	8	0		
Aspidistra, specimen plant	5	0	10	6	Lilium Harrissi, per dozen ..	15	0	24	0		
Cineraria, dozen pots ..	6	0	9	0	Lobelia, per dozen	4	0	6	0		
Dielytra, per dozen	9	0	12	0	Lycopodiums, dozen	3	0	4	0		
Dracæna, various, dozen ..	12	0	30	0	Marguerite Daisy, dozen ..	6	0	9	0		
Dracæna viridis, dozen ..	9	0	18	0	Mignonette, dozen pots ..	4	0	8	0		
Ericas, various, per dozen ..	9	0	24	0	Myrtles, dozen	6	0	9	0		
Euonymus, var., dozen ..	6	0	18	0	Nasturtium per dozen ..	3	0	6	0		
Evergreens, in var., dozen	6	0	24	0	Palms, in var., each	1	0	16	0		
Ferns in variety, dozen ..	4	0	18	0	" (specimens)	21	0	32	0		
Ferns (small) per hundred	4	0	6	0	Pelargoniums, per dozen ..	9	0	15	0		
Ficus elastica, each	1	0	7	0	" scarlets, per dozen ..	3	0	9	0		
Foliage plants, var. each	1	0	5	0	Spiræus, doz.	6	0	9	0		

AVERAGE WHOLESALE PRICES.—OUT FLOWERS.—Orchid Blooms in variety.

Anemone (French), doz n	2	0	to	4	0	Pæonies, various, per dozen	0	6	to	1	6
Arum Lilies, 12 blooms ..	2	0	4	0	Pelargoniums, 12 bunches	6	0	9	0		
Asparagus Fern, per bunch	2	0	4	0	Polyanthus, dozen bunches	1	6	2	6		
Azalea, dozen sprays	0	4	0	6	Poppies, various, per dozen	0	2	0	6		
Bouvardias, bunch	0	6	1	0	blooms	0	2	0	6		
Carnations, 12 blooms ..	1	0	3	0	Primula (double), dozen	0	6	1	0		
Eucharis, dozen	2	0	4	0	sprays	0	6	1	0		
Gardenias, dozen	2	0	3	0	Roses (indoor), dozen ..	1	0	2	0		
Geranium, scarlet, doz.	4	0	6	0	" Tea, white, dozen ..	1	6	2	6		
bunches	4	0	6	0	" Yellow, dozen (Nick)	2	0	4	0		
Iris (English) doz. bunches	4	0	6	0	" Red, dozen blooms ..	2	0	4	0		
Lilac (French) per bunch	3	0	4	0	" Safrano (English),						
" (English) doz. bchs.	3	0	6	0	dozen	1	6	2	0		
Lilium longiflorum, twelve	3	0	5	0	" Pink, per dozen	3	0	5	0		
blooms	3	0	5	0	Smilax, per bunch	3	0	5	0		
Lily of the Valley, 12 sprays	0	6	1	0	Spiræa, dozen bunches ..	3	0	5	0		
Maidenhair Fern, doz. bchs.	4	0	8	0	Stephanotis, dozen sprays	3	0	4	0		
Marguerites, 12 bunches ..	2	0	3	0	Tuberose, 12 blooms ..	0	6	1	0		
Mignonette, per dozen	3	0	4	0	Tulips, dozen bunches ..	2	0	4	0		
bunches	3	0	4	0	Violets, Victoria (French),						
Myosotis or Forget-me-not,	2	0	4	0	12 bunches	1	0	1	6		
dozen bunches	2	0	4	0	" English, 12 bunches	0	9	1	0		
Narcissi, var., doz. bunches	0	9	2	0	Wallflowers, per dozen						
Orchids, various, per dozen	1	6	12	0	bunches	2	0	3	0		
blooms	1	6	12	0							



WHAT PAYS?

"In all labour there is profit," said Solomon; if he were writing now would he not rather change the order of the sentence and put it thus, "In all labour is there profit?" Do as we may it is only a singularly fortunate, or rather, shall we say, audacious man who is able to keep his head above water nowadays.

Fashion changes rapidly, both as regards food and clothing, and it is only by being ready for these changes that we can also be ready with our marketable goods. A tremendous blow was dealt at one of our chief English products when a fashion for soft clinging garments superseded the bright, stiff shiny goods of the early Victorian era. Our wool markets were paralysed, our growers at their wit's end, our manufacturers first indignant, then despondent, and Bradford and Bradford operatives

appeared on the verge of ruin. As it seemed a certainty, for some time at least, that English wool was to be a drug on the market, it appeared folly to grow sheep more especially as wool producers, and the farmers set to work to evolve an animal whose mutton was not too coarse and too fat, and which came to maturity in the shortest given time. So far so good. Lincolns and Leicesters grew decidedly out of favour, except in some markets. A down sheep, or at any rate a cross of down, seemed the desideratum, and it was produced and put on the market successfully.

There seemed no prospect of the old times returning, when the wool buyer's visit was made a sort of festival, and the cheque he left materially helped to swell the balance at the bank. It seemed to matter little what the wool was, it could but be for inferior purposes, so the wool sheets were the receptacles of the most curious fleeces known—all sorts and conditions, and all much of a price—and that a shocking bad one.

Fortune's wheel has turned, and we as a nation were not prepared for it. For some years great ladies of a philanthropic turn wore garments of English manufacture, or rather, manufactured of English bright wool; but in vain did they pipe to the middle class woman; as long as Paris said "soft clinging goods" no other voice prevailed.

Far-seeing men still had faith in pure Lincoln wool, and they showed their faith by action. Viewing with dismay these mixed flocks a society was formed, and the result has been a flock book with the pedigree only of the purest blood admitted. These men are in a great measure those who supply breeding stock to Australia, S. America, and other colonies. The admixture of Lincoln with South Australian produces a wonderful wool, but climatic influences render it necessary to import fresh sires constantly or the wool will "hark back" to the old short growth.

As, perhaps, few of our readers see the excellent journals published quarterly by the Royal Agricultural Society of England we should like to draw their attention to a most exhaustive article in the last issue on what might be called pure wool cultivation by Mr Turner of Bradford. He speaks of the time during the American War, and, still later, during the Franco-German war, when the Bradford goods were first and foremost in the markets, when the lustre English wool was at its top price, and when it had to be supplemented by colonial wools. In 1865 he manufactured 141 million pounds (lbs.) of English wool and 135 million pounds (lbs.) Colonial. In 1895 we had 113 million lbs. of our own against 395 million lbs. Colonial. Early in the seventies a fall began—a demand arose for soft goods—goods manufactured from merino and half-breds. Down went our wool to depths it can surely never reach again. Mutton, not wool, became the cry; and now that fashion has again spoken for hard bright Bradford goods we have little to offer of the old-fashioned wool, only a cross bred, inferior to that produced so cheaply in our Colonies.

Pure wools of the various English breeds have each their own peculiar place in the manufacturer's eye, and it seems a great oversight to do away with what is really good and useful (and unobtainable out of England) for an article that the foreigner produces better than we. Mr. Turner's remarks are clear and to the point, and he illustrates what he means thus:—

Scotch Black face (pure) is invaluable in the carpet trade; if crossed, the length and strength are both reduced, and it competes badly with East Indian wools.

Cotswold has sold better during the long depression than any other class of wool. It is used for hard stiff goods; crossed with Southdown it is of no use at all.

Pure Lustre, grown in Lincolnshire, Notts, and E.R. Yorks, and usually known as Lincoln, is absolutely unique in character. It can take the place of mohair if required, or used alone makes

a wonderfully bright beautiful stuff. Alas it is hard to find. Mongrel sheep cannot grow it.

Then there is the Leicester, or demi-lustre. This could be grown in the Midlands and Western counties; but here, again, more than half the sheep are not true to the name. This wool is finer than Lincoln, but hardly so bright. Pure, it is excellent; crossed, it is nowhere.

"Get the wool finer by careful breeding," says Mr. Turner, "by all means—that is, legitimate means; but don't touch Southdowns."

Pure down wool, short and fine, is unequalled for hosiery goods, but let no strain of long wool taint it.

Some farmers imagine these canny Bradford buyers can't detect a bit of cross. Why, they have handled wool all their lives, and they hardly need to see—a touch is sufficient to detect any little "off breeding," if one may be allowed such an expression.

We can grow distinctive wools here—wools that fear no foreign competition. It is of no use trying to do what the distant Colonies can do far better than we. We can never get anything but a third class price for our cross-bred; but for the several sorts mentioned above we are masters of the situation.

WORK ON THE HOME FARM.

The drought is likely soon to become serious, and the question to most of us will be, Is there to be a root crop? When there is moisture sufficient to start the plant, and the seed bed is sufficiently good, we think it best to sow Turnips at once. The Turnip will stand great heat in its early stages, and St. Swithin rains following a hot time have produced some of the heaviest crops on record, but there must be a plant to work on, even if it be only a weakly one.

At any rate there is a fine chance to clean the land, and if roots for the present be hopeless we must take advantage of the opportunity by judicious ploughing and working to eradicate noxious vegetation.

Mangold seed went in well, and having received a good rolling in order to retain as much moisture as possible we must hope for the best, but fear that germination will be very poor without a soaking rain.

The hoe must be kept constantly at work now; it means death to everything it touches under present conditions, and once over will be enough.

Sheep pastures are failing fast, and happy is the man who has a long pie of Mangolds to fall back upon. The sheep look fairly well and healthy, and that is usually the case in a dry season; the ewes would be better now without their wool, and should be washed at once. The wool only overheats them, and may itself decrease in weight if not removed shortly. We are sorry to say that the market for it is not in as healthy a state as last year.

With pastures looking barer every day it is tempting to see the Mangold heap and to take a few loads to the ewes and lambs, but poor as pastures may be now a long drought may make them infinitely worse, and then the roots will be a necessity, not a luxury as they may be called now. Fencing must be carefully attended to; it is much easier to keep sheep in a satisfied condition than to eradicate the restlessness caused by once having broken fence. There is always difficulty about fencing when pastures are bare.

Whilst waiting for a Turnip rain we may usefully employ the time in thrashing out any grain left in stack. This is a great year for mice, and they will consume a large quantity per week. It is advisable, too, to tie up the wheat straw when being thrashed, as it is handier to use as thatch and there will be less waste.

METEOROLOGICAL OBSERVATIONS.

CAMDEN SQUARE, LONDON.

Lat. 51° 32' 40" N.; Long. 0° 8' 0" W.; Altitude 111 feet

DATE.		9 A.M.					IN THE DAY.				Rain.
1896 May.	Barometer at 32°, and Sea Level.	Hygrometer.		Direc- tion of Wind.	Temp. of soil at 1 foot.	Shade Tem- perature.		Radiation Temperature			
		Dry.	Wet.			Max.	Min.	In Sun.	On Grass.		
	Inchs.	deg.	deg.		deg.	deg.	deg.	deg.	Inchs.		
Sunday .. 10	30.211	58.1	52.6	N.E.	55.3	73.0	44.3	117.7	36.2	—	
Monday .. 11	30.305	56.2	51.4	N.E.	56.2	74.9	44.2	118.9	37.2	—	
Tuesday .. 12	30.420	63.2	54.7	N.E.	57.3	78.4	45.3	117.4	38.9	—	
Wednesday 13	30.377	54.9	49.9	N.	58.8	71.9	48.4	108.9	44.9	—	
Thursday .. 14	30.207	57.6	53.1	N.	59.0	76.3	45.9	118.2	37.8	—	
Friday .. 15	30.100	66.0	56.1	N.W.	59.1	71.9	48.4	113.9	38.1	—	
Saturday .. 16	30.236	52.7	46.8	N.	58.9	62.5	44.8	105.9	37.1	—	
	30.265	58.4	52.1		57.8	72.7	46.1	114.4	38.6	—	

10th. — Bright sunshine throughout.

11th. — Brilliant from sunrise to sunset.

12th. — Almost cloudless day; threatening rain in evening.

13th. — Bright sunshine all day.

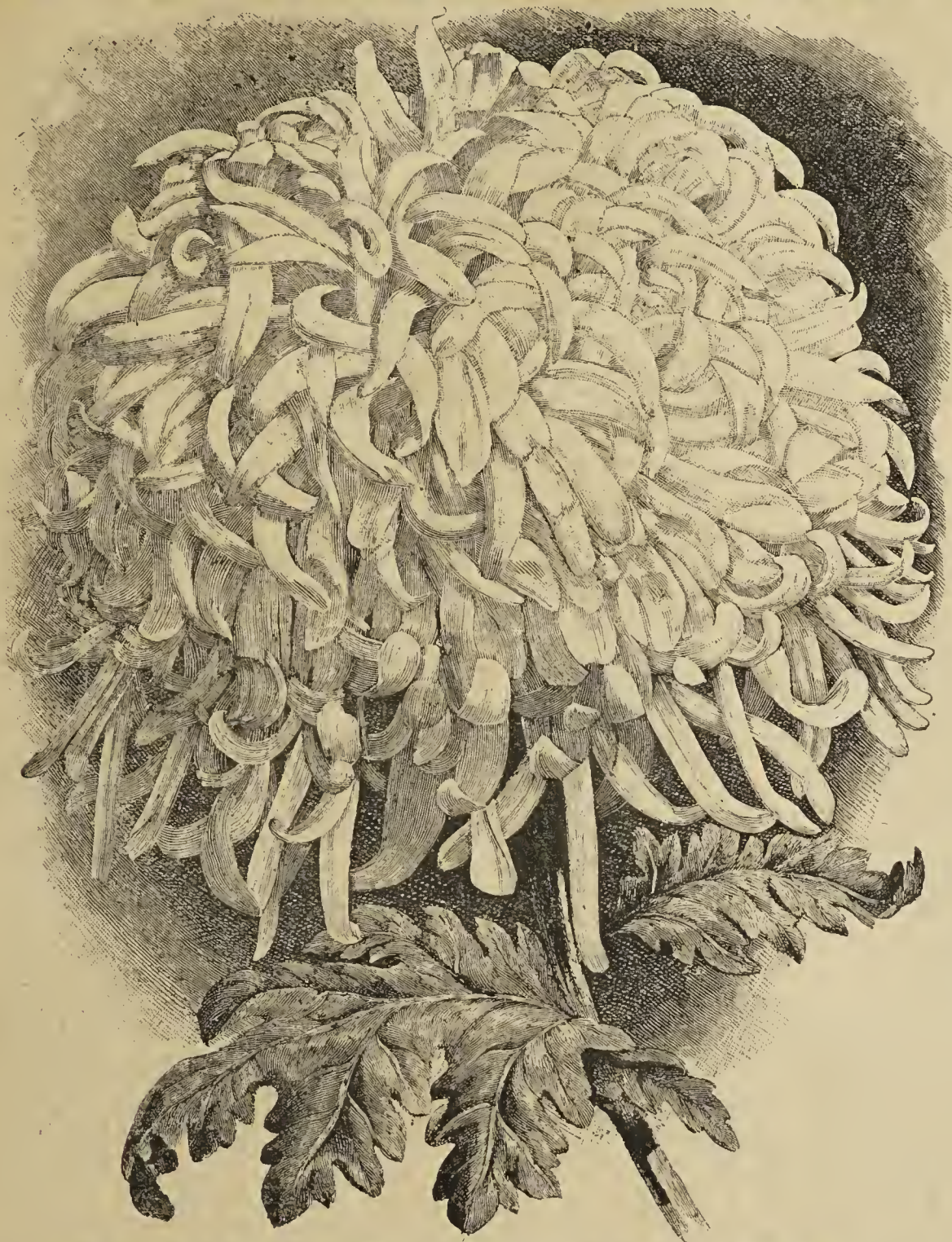
14th. — Sunshine all day, but hazy at times; clear night.

15th. — Frequently sunny, but not clear, and cloudy at times.

16th. — Generally cloudy, but frequently sunny in afternoon.

Another rainless week. There has been no rain since April 16th (except 0.08 inch on the 29th), and there has been no single fall amounting to 0.10 inch since March 28th. The temperature of the past week has also been high, about that usual in the middle of June. — G. J. SYMONS.

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Is the Best and Most Economical Fertiliser procurable, and is indispensable to the Exhibitor.

We offer the following **SPECIAL PRIZES** for Produce grown by the aid of our **CHEMICAL MANURE**—

ABBEY PARK, LEICESTER, AUGUST 4, 1896 ..	£3, £2, £1.
SHREWSBURY AUGUST 19, 1896 ..	£3, £2, £1, FOR GRAPES.
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LEEDS NOV. 1896 ..	£1 10s. for BLOOMS & £1 10s. for PLANTS.

PEARSON'S CHEMICAL MANURE is the ideal Fertiliser for Chrysanthemums, the plants which are grown for our Great Annual Show at the Chilwell Nurseries are grown by its aid, and we have had the honour of winning the following Prizes for Cut Chrysanthemum Blooms—

LEEDS, 1894	FOUR FIRSTS.	HANDLEY, 1895 ..	TWO FIRSTS.
HULL, 1894	ONE FIRST, ONE SECOND.	TAMWORTH, 1895..	TWO FIRSTS.
BATLEY, 1894	TWO FIRSTS.	LEEDS, 1895.. ..	THREE FIRSTS & ONE SECOND.
BATLEY, 1895	ONE FIRST (THE GREAT CHALLENGE CUP).		

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PRICES—£16 per Ton, 20s. cwt., 12s. $\frac{1}{2}$ -cwt., 7s. $\frac{1}{4}$ -cwt., 4s. 14-lb., 2s. 6d. 7-lb., and Sample Tins, post free, 1s. 3d.

Half-cwt. and over Carriage Paid to any Railway Station in England, Scotland, or Wales; or to any English port for other countries. In ordering please mention this paper.

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No. 831.—VOL. XXXII., THIRD SERIES.



Journal of Horticulture.

THURSDAY, MAY 23, 1896.

OUR FOOD RESOURCES.

WHETHER we make the most and the best of our means for the production of wholesome food is a question open to discussion, probably rather more likely to end in a negative decision than otherwise, but be this as it may, our dependence for the necessities of life on the resources of other lands seems to be a positive fact. The "Agricultural Returns for Great Britain" during 1895, just published by the Board of Agriculture, are embodied in a "Yellow Book" of considerable dimensions, some 250 pages being packed with important information affecting the chief industry of this country—the cultivation of the soil.

The Returns start on the basis of indicating the total area of land and water in Great Britain—namely, 56,772,000 acres. Of this space 2,726,000 acres are returned as under woods and plantations; 12,606,000 mountain and heath land used for grazing; 16,611,000 permanent pasture, and 15,967,000 acres arable land in farms and market gardens.

A notable feature in the Returns is the continued shrinkage of land under the plough; more than 510,000 acres less Wheat was grown by our farmers than in 1894, though there was an increase under Potatoes, small fruit, Lucerne, and Flax of 45,000 acres; and of Clover and temporary grasses of 226,000 acres. As showing the change in cropping that has been in progress for some time we are authoritatively informed that the actual loss of arable area during the last twenty years is 2,137,000 acres, the reduction in Wheat growing alone during that period being no less than 1,900,000 acres. The enormous reduction in the staple crop from 3,343,000 acres in 1875 to 1,418,000 in 1895 is effectively shown in coloured maps, which represent that Wheat is only grown now to any substantial extent in the South-Eastern and North Midland counties—Essex, Cambs, Suffolk, Norfolk, and Lincoln.

Hop culture remains practically the same as in 1894, but the cultivation of small fruit has extended from 68,400 acres in 1894 to 74,500 acres in 1895, Kent returning 22,000 acres, nearly a third of the whole, the next largest contributors being Middlesex and Worcester. The area returned under orchards shows a

continued increase, the figures being 218,000 acres at the present time (end of 1895) against 198,000 acres ten years ago, and 155,000 acres in 1875, an average increase of 2650 acres per annum during the past twenty years, yet there is no reduction in foreign imports.

The returns show a marked extension in the culture of Potatoes. The acreage under this crop last year was larger than in any year since 1889. The returns for the past three years are, in weight of produce, 6,541,000 tons in 1893; 4,662,000 tons in 1894; and 7,065,000 tons in 1895. The area under cultivation in Ireland is considerably reduced.

The value of the imports of food produce is, as may be imagined, astounding. Passing the enormous outlay for meat and Wheat, we find the almost startling information that, including condensed milk, the imports of which continue to expand, the sum paid for all forms of dairy imports last year was little short of £23,000,000. It is consolatory to find, however, that the amount is a little short of the amount paid in 1894, though with that exception is the largest during the past twenty years.

Turning to the imports of such fruits as are grown in this country and which are given in the returns, we find that of Apples 1,504,752 bushels more were imported in 1894 than in 1893; the returns for 1895 are not given. In Cherries, Grapes, and Plums there was no material change in the bulk imported in the two years named; while of Pears the last record is the greater by 394,861 bushels. The imports of Potatoes show little alteration, but in Onions nearly 620,000 more bushels were imported in 1894 than the year preceding, and up to the end of September, 1895, we paid more than £500,000 for foreign Onions.

The "Returns,"* to which we have referred, can be had for 1s. 6d., and are worthy of careful study. They represent an enormous amount of labour on the part of the Board of Agriculture, and should have a stimulating effect on producers in this country.

PÆONIES.

THESE gorgeous flowers are almost as universally known as Roses, and I fancy there are few village lads who are not thoroughly acquainted with the old dark red variety, *officinalis rubra plena*. Certainly it is one which I have the earliest distinct recollection of, for it was usually seen in full glory on the annual gala day of our village benefit society, and as the gay procession passed through the street bearing aloft fluttering flags and marching to the vigorous strains of the village band, many of the crowd might be seen with a gigantic Pæony doing duty as a buttonhole. Few will perhaps consider them as particularly suitable for that purpose, but I think all must admit Pæonies are worthy of a prominent place in all gardens where there is plenty of space. Now that their flowers are rapidly unfolding a suitable time occurs for drawing attention to their merits, so that the names of a few varieties may be jotted down among the good things to be ordered next autumn, or better still, ordered now for delivery during the planting season.

Although Pæonies are accommodating plants and succeed fairly well under varying conditions, yet few plants pay better for superior culture. When planted in front of shrubberies they make a fine display during the month of May, and with an annual coating of manure may be kept strong and vigorous for years, but if the application of manure is neglected the flowers each year become smaller and the plants far from strong. When growing in light soils they suffer considerably from drought during hot seasons unless mulched, and the use of manure as a mulching is objectionable in pleasure grounds. Leaf soil, however, is not so, and I find a coating of this applied some time during April is very beneficial. We have numbers of clumps in such positions, and with the treatment above indicated they yield quantities of good flowers for cutting. To secure the best effect they should be planted in beds or masses. It is then an easy matter to give the exact treatment required, and a large bed of Pæonies in flower is a sight not soon forgotten.

When preparing such beds for planting the soil should be removed to a depth of 2 feet, the subsoil be broken up, and liberally enriched with fresh manure, partially decayed manure being mixed with the upper strata. Beds prepared in this way, and planted early in November, may confidently be expected to produce superior flowers. During the growing season up till their flowers are half-opened fortnightly applications of

liquid manure are of immense service in giving substance and brightness to the petals. Blooms grown under such conditions are always prized where extensive arrangements in cut flowers have to be carried out. When thinly disposed in large trumpet-shaped glasses, and intermixed with the striped Ribbon Grass, such flowers have a very imposing effect. They should, if possible, be cut just before they are fully expanded, when they have reached that stage a day before they are required for use. It is a good plan to cut and place them in water in a cool dark room rather than leave them longer on the plants. I always make a point of cutting a piece off the stem immediately before they are placed in vases; this helps to prolong their freshness.

The following varieties are some of the most useful and showy in the herbaceous section:—*albiflora chinensis plena*, pure white, very large; *albiflora edulis superba*, bright rose, slightly scented; *amabilis*, a beautifully shaded flower, guard petals deep pink, centre petals lilac pink shaded salmon; *amabilis grandiflora*, creamy white; *Arethusa*, rosy pink and creamy white; *atro-sanguinea*, brilliant crimson, shaded purple; *candidissima*, guard petals white, centre petals pale primrose at the base, an old and popular variety; *Charles Binder*, lilac purple; *Comte de Neipperg*, carmine; *Comte de Cussy*, a bold flower of lovely rose colour; *Dr. Brettoneau*, satin rose; *Eclatante*, a fine rose coloured variety, which should be grown in quantity; *Faust*, blush, very large; *globosa*, deep pink; *Jeanne d'Arc*, guard petals rosy pink, centre petals white, large and fine; *lutea plenissima*, pale yellow; *Madame Lemoine*, delicate pink; *nivea plenissima*. Three early varieties to grow in quantities are *officinalis alba plena*, *o. rosea plena*, and *o. rubra plena*. These always prove extremely useful, coming in flower as they do just before the bulk of varieties. *Rosamond*, deep pink; *tenuifolia plena*, deep blood red; and *Triumphans* complete my list in this section.

Many varieties of *Pæonia arborea*, commonly known as Tree Pæonies, produce flowers of immense size, the colour blending in them being invariably soft and pleasing. They ought to be planted in the most sheltered positions, as the young shoots are liable to injury by spring frosts. The following varieties will supply flowers giving a good range of colour:—*Belle de Mornza* (light salmon), *Carolina* (deep crimson), *Clara* (deep rose, very large), *George Paul* (large, deep lilac-violet), *Impératrice Josephine* (bright rose, Anemone-shaped), *Lactea* (pure white), *Louise Mouchelet* (a brightly coloured flower of fine form), *Moutan*, fl.-pl. (double white), *Manetto* (white tinted flesh colour), *Orgueil of Hong-Kong* (bright clear purple), *Reine Elizabeth* (reddish salmon), *Ville de St. Denis* (white, lightly tinted violet, carmine centre), *Weisse* (white).

If the plants are well treated Pæonies are flowers which never disappoint, and among all the floral gems it is our good fortune to admire and enjoy, there are none more gorgeous than the grand flowers of which these notes have briefly treated.—H. DUNKIN.



ORCHIDS AT THE TEMPLE SHOW.

THE great show of the year has come and gone once again, and thousands of visitors have enjoyed the floral feast provided by the Royal Horticultural Society. All phases of floral, fruit, and vegetable horticulture that are now seasonable were admirably represented, but at this moment Orchids alone claim attention. That the display of these was magnificent no one will deny, and many were the rare and beautiful species and varieties to be seen, on the first and second day at any rate. The system of exhibiting showed only one novelty, of which more will be said later.

Readers will have noticed the words "on the first and second days at any rate," in reference to the special Orchids in the foregoing paragraph, and they will have gathered that on the third day they were *non est*. Of course, the plants removed are valuable, but, at the same time, if they are staged for a show it is only reasonable to expect that they will remain to the close. It is rather hard that third-day visitors should be debarred seeing the choicest of the gems. Last year one plant disappeared after the first day, this season more than one after the second. The writer was one of the many who left with just a suspicion of discontent for the above reason.

After closely inspecting the various exhibits in this section the opinion that, generally speaking, the plants were not up to last

* Eyre & Spottiswood, East Harding Street, London, E.O.

year's standard was arrived at. Perhaps other visitors will favour with their convictions on this point? Individually, however, there were some of the most charming Orchids that one could wish to see, but these were vastly in the minority, the remainder being of good average quality or under it. Many were the expressions of genuine regret when it was found that Baron Schröder was not amongst the contributors, as it is from The Dell that everyone expects to see something of the best, something unrivalled in its superb beauty. No doubt the ordeal of three days' sojourn in the stuffy though draughty marquees was considered too severe for the plants, but if only a few were staged they would be welcomed and appreciated. Let us unite in the hope that at the next Temple show the Baron will sanction a small exhibit, if not a large one.

Could not some arrangement be made whereby the necessity of staging in the old stereotyped manner could be at least minimised, if not entirely obviated? As it is now, the plants are packed on long stages, which, despite the beauty of the flowers, become slightly monotonous ere the end is reached. That variety and taste can be introduced was proved, though on a very small scale, by Messrs. Backhouse & Sons, who built a miniature rockery, from which sprang Ferns and Orchids, principally *Odontoglossums*. The effect produced was graceful and pleasing, and the merits of the flowers could be seen with the same ease as when the plants were in formal rows. Besides this, it does away to a considerable extent with crowding—a decided advantage where one desires to see the leaves as well as the flowers.

Evidence of splendid culture was seen on every side, and in none, perhaps, more than in the exhibits from Mr. F. J. Thorne, gardener to Major Joicey, and Mr. W. H. Young, gardener to Sir Frederic Wigan, though the plants from Mr. A. Hislop, gardener to H. S. Leon, Esq., were very little behind in this respect. This is speaking only of amateurs, but of course the nurserymen were strongly and well represented. Then there were the botanical Orchids of Sir Trevor Lawrence, Bart., that are always well staged by the grower, Mr. W. H. White. For interest alone these stood supreme, though from the point of view of beauty they were far outshone by the several others. Probably the credit of having brought the smallest exhibit belongs to Mr. T. W. Bond, gardener to C. L. N. Ingram, Esq., who staged one *Cattleya*. It was a superb form of *Mossiae* named C. L. N. Ingram, and was certainly one of the finest and probably the largest *Cattleya* in the exhibition. It deserved the recognition that was accorded to it in the form of an award of merit.

For richness of colour the place of honour amongst the *Cattleyas* must be given to Mr. A. Hislop's *C. speciosissima* Ernest. Rarely do we see such Orchids as this. The type is very well known to all orchidists, but those who missed a sight of this variety lost one of the finest features in the whole exhibition. The sepals and petals were splendidly formed, but the colour was the chief merit. This, throughout these organs, was of the most intense rose, approaching crimson, while from one aspect a suffusion of purple was faintly perceptible. The lip was of the same hue, but having in the centre curious dark crimson markings. The throat and side lobes were rich canary yellow, delicately veined with rose. This was one of the only two *Cattleyas* that were honoured by first-class certificates, the other being Messrs. H. Low & Co.'s superb variety of *Cattleya Mossiae Arnoldiana*—of a different style of beauty; this also was little short of perfect. The only other *Cattleya* specially honoured was *C. Mossiae Beatrice*, sent by Mr. W. H. Young.

Laelias in the various exhibits were of average quality, only two *purpuratas* being considered by the adjudicators worthy of marked notice. Of these one came from Messrs. W. L. Lewis & Co., and the other from Mr. W. H. Young. The former, called *L. p. Lewisi*, was distinct improvement on the majority of varieties, the colour being almost wholly white. On the lip was seen the only variation afforded by some very faint rose lines. This received a first-class certificate, while *L. p. Frederic Wigan* secured an award of merit. Of the latter the most beautiful feature was the colour—white, delicately suffused with rose—of the sepals and petals. The lip had something more than a rose margin and a rich crimson blotch of considerable size extending well into the creamy throat. As representing bi-generic Orchids, *Laelio-Cattleya* D. S. Brown, in Messrs. F. Sander & Co.'s group, was not quite up to the highest standard, though undoubtedly good.

Curiously enough *Cypripediums* were neither seen in extensive quantity nor particularly high quality. True, there were several plants in various forms that were very good, but new ones were

few; in fact, as with the *Laelias*, only two were adjudged awards of merit. *C. Coradinei*, from Messrs. W. L. Lewis & Co., is a grand Orchid. The flower very massive and imposing, the dorsal sepal being particularly well developed. In colour this organ is peculiar. The margins white with a dark brownish green centre striped and veined green and chocolate. The well shaped petals are brown tinged with green, as also is the large handsome pouch. *C. Cowleyana Annie Louise* was supposed to be a hybrid from *C. Curtisi* and *C. niveum*, but the exact parentage is apparently not known. The pouch is creamy white at the base and claret at the upper part, while the petals are white with crimson spots. The ground colour of the beautiful dorsal sepal is also white veined with pale rose. G. W. Law-Schofield, Esq., was the exhibitor.

Odontoglossums were of quite exceptional merit, and many were the beautiful forms staged. Several species were staged, but the majority were crispums, not as a rule so choice as those from



FIG. 80.—ODONTOGLOSSUM CRISPUM AUGUSTUM.

Baron Schröder's unrivalled collection; but Mons. L. Linden sent one, *O. c. augustum*, that would grace any Orchid lover's house. The handsomely formed, substantial flowers were white, with heavy chocolate blotches in colour. It received a first-class certificate. Mr. D. Masterton, gardener to Welbore S. Ellis, Esq., had some superb crispums, not one, but several, though *O. c. guttatum* Miss Victoria Ellis stood at the head of all for beauty. The form of the flower was well nigh perfect, and the colour white, with reddish chocolate spots on the petals, sepals, and lip. *O. c. Lowæ* from the Clapton growers, was of exquisite form. The white ground colour was relieved with large claret crimson brown blotches on both sepals, petals, and lip, but on the latter organ the colour was approaching scarlet. The two received awards of merit.

From the crispum section of the *Odontoglossums* we turned to the others, and found two that had had meted out to them the coveted award of merit. Mons. Jules Hye-Leyson sent *O. vexillarium coereana*, of which the body hue was a very rich rose, the beauty being decidedly heightened by the Picotee-like edge of white. The same exhibitor was also responsible for *O. expansum*, an exceedingly beautiful Orchid. The spike on the plant shown carried about sixteen flowers, of which the ground colour was white, each organ being spotted dull chocolate crimson. The segments have crimped edges. The only other Orchid noted as having been particularly honoured was *Oncidium varicosum giganteum* from Mr. W. H. Young. The immense lip, measuring upwards of 2 inches across, was of the brightest, with the exception of a little rich red. This was in all likelihood the most magnificent variety of *varicosum* that has yet been exhibited. These notes will give some brief idea of the newer Orchids that were staged, but there were also a few others worthy of a passing glance, though they did not receive official labels.

Brief reference has been made to the collection of Orchids staged by Mr. W. H. White, and though they cannot be particularised

now they were botanically of greatest interest. Plants were seen that one would probably have to go a very long way indeed to equal owing to their extreme rarity. Some bore curious, others beautiful flowers, and on the whole this stand attracted a considerable amount of attention. A fine example of culture was seen in a plant of *Odontoglossum crispum* from Mr. P. Blair, gardener to the Duke of Sutherland, which was carrying, when staged, six highly creditable spikes of flowers. Major Joicey's variety of *Dendrobium atro-violaceum*, as shown by Mr. Thorne, was worthy of more than a passing glance. For the kind the plant is remarkably strong, and was showing flowers of exceptional quality. These evidently last a considerable time, as unless very greatly mistaken, the plant was the same as was staged at the Drill Hall, Westminster, two or three meetings ago. There were others that might well be mentioned, but these must now suffice.

Notwithstanding the many excellent specimens exhibited, the Orchids were not, as a whole, up to the high standard of quality that was attained to last year. Let us hope that in thanking the Royal Horticultural Society and its officials for the glorious panorama of flowers they provided for us, when next the Temple show is with us the Orchids and the many other plants and flowers shown will be of an excellence never before seen in London, or indeed in the United Kingdom. Horticultural Great Britain will be ready in its thousands to flock to the Temple Gardens once again to see that which will at once interest, elevate, and amuse. —F. R.

BULBOPHYLLUM BARBIGERUM.

ONE of the most attractive and interesting plants at the recent Temple show was this diminutive Orchid, the flowers of which are furnished with exceedingly sensitive beard-like (hence the derivation of the specific name) greenish brown coloured stamens and anthers attached to the labellum, and which are readily agitated by the slightest breath of air with an upward current, so that they appear to be endowed with animal life, or resembling minute grubs. Happening to be standing behind a small party of ladies and gentlemen watching the movements of the flowers, and who were puzzled as to the cause of the phenomenon, and which had an intermittent motion, I concluded that it was owing to the action of one's breath. I, unconscious to the spectators, quietly blew towards the plant several times in succession, with the desired effect, to their great amusement and wonder. This novel plant is an epiphyte, and of which there are at least a score of known species, was introduced from Sierra Leone in 1836.—G.

ARPOPHYLLUM GIGANTEUM.

THE *Arpophyllum* can hardly be regarded as a popular genus of Orchids, several of the species being unknown outside botanical collections, or at all events rarely seen. The species named above, however, is a very fine Orchid when well grown, and may be considered the best in the genus. The colour of the flowers, a combination of deep purple and bright rose, is by no means common in the genus, and the shape and disposition are also very distinct. On strong plants the spikes attain a length of about a foot, 9 or 10 inches of this being closely set with the small but pretty blossoms. They are produced from the apex of the last matured pseudo-bulb after the manner of several *Epidendrums*, and last a considerable time in good condition if kept dry in a cool house.

It is a fairly strong rooting plant, and by no means difficult of cultivation, given reasonable care and attention. We grow it in the Cattleya house, keeping the plants well up to the light, and have no reason to complain of paucity of blooming. The chief points to study are to encourage all possible growth during the summer by watering the plants freely and keeping them healthy at the roots, then as the sun begins to lose power in autumn expose them as much as possible to its influence, so as to thoroughly ripen the growth made. As soon as the young shoots begin rooting, water may be given very frequently, never allowing the compost to become dry, and continuing this ample supply right on up to the time of reducing the temperature as winter draws near. When quite at rest only water need be given to keep the somewhat thin bulb-like stems from shrivelling, allowing the roots to get fairly on the dry side, but not dust dry before watering.

Early in spring—the exact time varying of course according to the heat provided—the flower spikes will appear, and rather more moisture will then be found necessary. If the plants are required for any given date they may easily be hastened by allowing more heat; but it is not so easy to retard them after the end of this month. If repotting is necessary it may take place immediately after flowering, before the young growths have made much progress. A fairly large pot or pan, according to the size of the plant, should be given, as if happily treated it soon makes a large plant, and frequent disturbance is not advisable.

The drainage must be free and open, at least half the depth of the pot being filled with ballast or crocks, and this covered with a layer of rough moss. When turned out of their pots examine the roots carefully and cut away all decayed parts, also picking out any sour portions of compost. If in very bad condition wash the whole of the old peat away, and see that the bases of the old bulbs are sound; if not, cut them clean out.

Spread the plants out to dry on a stage in the house, or in the potting shed if the weather is warm, before repotting. A good compost will consist of equal parts of peat fibre, light loam, and sphagnum moss, adding plenty of rough lumps of charcoal, or working these in as potting proceeds. Unhealthy or weak plants are better without the loam, and should be placed in as small pots as possible until they acquire a little strength, when they may be treated as usual. This treatment is also advisable for semi-established plants, and all require slightly warmer and moister quarters than healthy established specimens. If it is desired to propagate the species it may easily be done by cutting through the rhizome with a knife and dividing at potting time, the cutting taking place some time previously for preference, though not actually necessary. In this way a large old specimen will make many useful plants for flowering in about 5-inch or 6-inch pots, a size in which they are very useful for grouping.—H. R. R.

HARDY FLOWER NOTES.

THERE is generally in every pleasure some drop of bitterness we could well have done without, or something lacking to make our joy complete. So, at the time of writing, there are sunny skies above and bright flowers around and among our feet; but amid all the brightness there is a pressing need of cloudier skies and the gentle rainfall to bring welcome refreshment to the garden's occupants. To all who have to do with outdoor plant life such a change would be indeed welcome, and one can but hope that long before this appears the parched land may have been refreshed, and that, among others, we who love flowers may have the wants of our favourites supplied. Not many of our hardy flowers like drought, and those of early summer soon have their day of beauty over with a glaring sun overhead and parched ground beneath. Watering becomes a necessity with some, but nothing can ever make up for the gentle dropping rain, which gives new life to drooping plants and longer days to many blooms. In dry weather the rockeries, when well constructed in terraces, best repay watering, and in my porous soil it is frequently done to the great benefit of the alpine. Ere choosing from the garden's treasures a few flowers for fuller notice, we may profitably glance round and note briefly what may strike the eye, either on account of their brilliancy or more modest charms.

There are *Pæonies*, like rounded globes of colour, which lead us to wonder at their magnificence; while the single varieties, more elegant in appearance, give true pleasure as their shining cups are examined and pondered over. There are *Irises* many, puzzling one when of necessity we have to endeavour to tell of their marking and colouring. They are a welcome relief from other garden flowers in the forms of their flowers and leaves, various as these are among the different sections and species. There are flowers among them which have borrowed the colours of the rainbow, and have blended them in a way impossible to describe and enchanting to admire. The golden yellow *Alyssum saxatile* has put off the first flush of its beauty, and when rain comes it will have reassumed its Quaker garb, and look unlike that plant which yielded so much bright gold. The *Tulips* have had too short a time, and we part from their flamed and feathered flowers, and the many pretty breeders and species, as well as from the fantastic blooms of the *Parrot* varieties, with unmingled regret.

They are nearly gone, but in their place have come the *Poppies* in brilliant array. *Papaver umbrosum*, of which I bought a packet of seed some years ago, puts in an appearance every two years. This is its regular year of appearing, and it is universally admired, with its pretty foliage and its glossy scarlet petals, with their shining black blotches. *P. rupifragum*, with its fragile "salmon" coloured flowers, has also entered the field; and the great Eastern *Poppies*, with their gorgeous flowers, seem to look disdainfully upon the minor magnificence of their kindred.

From the rockeries and along the edgings of the walks hang sheets of the varieties of *Phlox subulata*, ranging from the white of *P. s. Nelsoni* to the deep purple-red of *P. s. atro-purpurea*, and relieved by spires of *Encrusted Saxifrage* from the diminutive ones of *S. aizoon* minor to the towering ones of *S. longifolia*. The odorous *Wallflower* has well nigh passed away, but the bright *Cheiranthus Marshalli*, *C. alpinus*, and *C. versicolor* shine on the rock garden slopes. From a low, damp, but well drained pocket at the base of a rockery the yellow *Ladies' Slipper* (*Cypripedium*

pubescens) pleases us with its bright sabot-like flower, and has for its companion in bloom the old fashioned *Saxifraga granulata* fl.-pl., the white flowers of which are welcome even among so many other Rockfoils. The *Aubrietias* are standing the drought well, and there is a great variety of shade of lilac, and purple, and rose among them. They seed freely, and inferior ones need weeding out.

Then there are the Golden Drop (*Onosma echioidea*), best known as *O. tauricum*, with its almond-scented flowers, white Candytufts, *Pyrethrums* of many hues, and both single and double, delightful *Violas*, drooping *Squills*, with the bonnie little *Hyacinthus amethystinus albus*, and the less refined *Scilla lilio-hyacinthus albus*. The later Forget-me-nots still give their gentle-looking little flowers of daintiest colouring, and another one, a little plant with a great name, *Myosotis Welwitschia*, will follow in a day or two. But one must not run on like this, though the garden's blossoms are numerous enough to induce me to linger in this strain.

There is a plant here which I should not place in the first rank of hardy flowers, but which, all the same, I should not like to discard. This is what I have as *Sobolewskyia clavata*—a name not to be found in the "Kew Hand List," but which is probably correct if one may judge from the clavate or club-shaped leaves. At Kew there is one named *S. lithophylla*, which in "Paxton" is given as a biennial. That I have as *S. clavata* is a true hardy perennial, but I cannot recollect of having met with it in more than a few gardens, and what I have was raised from seed. Like many other cruciferous plants it has small and rather insignificant flowers, but these are freely produced in nice little heads, and are of better form than many belonging to the same natural order. They are also of a very pure white, and the whole general effect of the plant is silvery looking and rather attractive. What is more it does not appear to be too particular as to situation, as I have seen it growing in a rockery partly overshadowed by trees, and I have it here in a half-shaded position at one side of a rockery, where it is much exposed to a strong current of air. I am beginning to think it should have a more favourable position, and think of planting this *Sobolewskyia* in a more open place. It is about a foot high in my garden, but I have seen it a little taller, and also not quite so high. It has not the most agreeable perfume, but is not at all obtrusive in this respect, as it is only when placed near the nose that this is perceived. I understand that it is a native of the Caucasus, and that Bieberstein is responsible for the unharmonious name of the genus, which is a little difficult to remember at first, but after a time becomes fairly familiar and comparatively easy to articulate. *S. clavata* comes freely from seed, which I have seen offered occasionally.

About two or three years ago I received from a correspondent at Broussa seed which was said to be that of *Geum coccineum*, which, as not very many are aware, grows on the Bithynian Olympus, and is distinct from the plant generally grown in gardens under that name, but which is really *G. chiloense*. Circumstances prevented me from flowering the only two plants produced from the seed until this year, and, as I was doubtful from the colour and other points of the correctness of the plant, I sent a flower to the Rev. C. Wolley Dod, who, with his wonted kindness, told me it was *G. Heldreichi*, or, perhaps more correctly, *G. montanum* var. *Heldreichi*.

This plant is very highly praised by various seedsmen and nurserymen who are offering seeds or plants, and it will in most cases be an acceptable addition to any collection of hardy flowers. In its habit and foliage it resembles *G. montanum*, but is of rather more vigorous growth, and varies a good deal in the colouring. One of my plants is a deep orange red, and the other a lighter shade, nearer orange colour. One specialist in hardy plants who is enthusiastic in his praises of *G. Heldreichi*, in his catalogue says he has also secured a double variety. *G. Heldreichi* appears to have been introduced from Greece by some of the trade, but, as I have already said, my seed came from Broussa, having been gathered on Mount Olympus. There is little difficulty in growing this *Geum*, and as seed is rather widely offered and plants are comparatively low in price, this desirable flower should be secured. It is of much better habit than *G. miniatum*, and the same colour will be secured among a few plants.

I saw lately a flower of that very beautiful and as yet rare *Pæony*, *Wittmanniana*, which would soon be much more widely grown were it more moderate in price. There has, however, within recent years been a considerable reduction in the quotations at which it is offered, and although still expensive devotees of hardy flowers cannot afford to be long without such a fine plant. *Pæonia Wittmanniana*, which grows over 2 feet high, has large, single, delicate primrose yellow flowers, called "yellowish white" in the "Dictionary of Gardening," but this is hardly descriptive of the delicate colouring of the flower, which is quite in keeping with that of the leaves. It is said to have been introduced in 1842, and to come from the Caucasus and North Persia. *P. Wittmanniana* grows

in a good loamy soil, and is hardy in this neighbourhood. The *Pæonies* are such brilliant and effective flowers in the garden, where used with discretion, that those who have sufficient space should grow a representative collection of the various single and double species and varieties. They are now exceedingly numerous, and a study of the catalogues of those who make a speciality of these brilliant flowers, whose beauty is unfortunately too short-lived, will be quite a revelation to many.

This year I have again been successful in flowering *Iris lupina*, the Wolf's-fur *Iris*, although I scarcely expected this through having to remove it at an unfavourable time to a new rockery. I hope again to say something more about it when referring to one of Professor Michael Foster's hybrids, *I. paravar*, which is in bud as I write. These hybrids are more easily grown than those solely belonging to the *Oncocyclus* section, and we may hope to have through these the curious yet attractive colouring of the Cushion *Irises* with the free habit of those less difficult to cultivate.—S. ARNOTT.

EFFECTS OF IRON ON VEGETATION.

I HAVE just had an artesian bored well sunk, and at about 55 feet a plentiful supply of water was struck, but it contains a considerable quantity of iron. Will you be good enough to inform me what quantity of iron in water is injurious to plants in general, and will Vines stand being watered with water containing the slightest traces of iron? If possible I want to use the water entirely for garden and greenhouse work, but I am doubtful about the iron. I append a copy of the analyst's report.

Total solids, 22.0 grains per gallon; chlorine, 2.2; ammonia, 0.0028; albuminoid ammonia, 0.0021; nitrogen as nitrites, small trace; nitrogen as nitrates, merest trace; iron, large traces; total hardness, 11.0; microscopic examination satisfactory.—B. B. H.

[On this subject Mr. G. Abbey writes:—I have used water containing 2 grains of iron oxide per imperial gallon for many years in every kind of plant and fruit house, without any injurious effects on plants and fruit trees. The water proved, after being aerated and duly warmed in open slate cisterns in the respective structures, quite as innocuous and, in some cases, superior to rain water for watering purposes.

For syringing use it was not nearly so serviceable as rain water, leaving an incrustation on foliage and fruit, greatly detracting from the appearance of both, and in some cases proving injurious to the foliage of plants with hairy leaves, such as *Gloxinias*. This I found quite as much due to the lime, carbonate 0.560, sulphate 3.185 grains per gallon, as to the iron and alumina oxides, 2.175 grains per gallon, but even that amount of lime was not injurious to Heaths, *Rhododendrons*, and other plants. This immunity was due to the iron, for without it the water containing a similar amount of lime was positively injurious to this class of plants.

The many acres of *Rhododendrons* referred to are now a grand sight, and several acres of hardy Heaths are in a flourishing condition, the soil being of a peaty nature overlying a pan of iron, lime, sand, and alumina, the springs from which being quite red where the water issues forth through the presence of iron. Such water, when allowed to settle, was used for thirteen years for every purpose, both indoors and outdoors, without any injurious effects, except, as before stated, when applied to the foliage.

As showing the little danger of iron in well water, it is noticeable that the Grapes taking the most prizes in England during the past twenty-five years have been produced by Vines watered with aerated and warmed well water containing 0.175 grain of iron per imperial gallon; the said water also contains 0.420 grain of soluble silica, and 0.240 grain sulphate of magnesia. The Vines are singularly healthy, and the Grapes clear in the skin.

Iron represented by "large traces" in analyses means not a measurable amount, and is not likely to prove injurious to any kind of plant to which the water may be applied, as the iron, even if in oxide form, is sure to meet with ammonia or sulphuric acid in the soil, and must become ammoniated, or combine with the sulphuric acid, and become sulphate of iron. This is, in some cases, a valuable plant food, and in all instances iron in some form—sulphate, phosphate, nitrate or chloride—is essential to the formation of chlorophyll, and the healthful development of the chlorophyll granules.

If a portion of grass land be divided into three plots, and one is watered with sewage containing $2\frac{1}{2}$ grains of iron sulphate to the gallon, another with water containing 5 grains of iron sulphate, and the third with water holding 10 grains of the same salt in solution with a gallon of water, it will be found that there is a marked difference between the growth of the grass on the treated plots and that receiving water only from the clouds or by watering. Mr. Tonks demonstrated this in 1871, or in his own words, "When the writer (Mr. Tonks) was a member of the Sewage Inquiry Com-

mittee, in 1871, with the view of controverting a statement made by Dr. Voelcker in his affidavit in the Chancery proceedings against the Corporation of Birmingham, he made an experiment (recorded in the Report of the Sewage Inquiry Committee). . . Dr. Voelcker swore that 'the Birmingham sewage contained 4 grains of iron sulphate to the gallon, which was very injurious to growing grass.' The writer sowed three plots with grass seed, one was watered from time to time with rain water [why not with Birmingham town sewage containing 4 grains of iron sulphate to the gallon?] another with water containing 5 grains of iron sulphate, and the third with a solution of 10 grains of the same salt to the gallon; the last named plot made double the growth of the first, and the second was as nearly as possible intermediate between the two."

After many experiments with iron sulphate, we have come to Mr. Tonks' conclusion that, "iron is of no use unless it be associated with all the other elements of plant growth." So far from it being injurious in sewage it frequently pays to add 1 lb. sulphate of iron to 100 gallons of thick sewage, diluting such four or five times for use in watering fruit trees.

For the reasons stated the water represented in the analysis is not considered injurious to plants on account of the "large traces" of iron, but would probably be improved by an addition of iron sulphate. The 22 grains per gallon of total solids may imply something beyond lime, which is presumably meant by the 11 grains of "total hardness," and this is likely to prove the difficulty—that is, it will be too hard for many greenhouse plants, and not safe to use for syringing purposes until softened, as it may readily be by treating with anti-calcaire, 1 lb. of this being added to 250 gallons of the hard water, stirring well, and allowed to stand for twenty-four hours, when the chalk will be deposited at the bottom of the tank and water rendered soft; while the precipitation is going on the water has a milky appearance. When the water is used care should be taken not to disturb the sediment, and the tank should be frequently cleaned out. The plan of softening water in the manner stated was invented by the late Dr. Clark of Aherdeen.]

FLORAL FACTS AND FANCIES.—19.

WELL-nigh as abundant in many places as are the common grasses of our waysides, flourishing even about the neighbourhood of London along banks or on hedgerows, the familiar species of Bedstraw cannot but be noticed by everyone, especially when they are dotted over with their burry double fruits. According to some who profess to know, it was these suggested the popular name, at first "Beadstraw," because when beads were more expensive than they are now, such natural beads, which could be obtained for nothing, were used for counting prayers by some of our forefathers. In support of this it is said the Bedstraws were deemed sacred plants, the whorls of leaves being sometimes star-like or cross-like. Galium cruciatum, for instance, was called the Cross-leaved Bedstraw, and numerous species have cruciate flowers in this tribe. Others maintain that the plants were really used as the ordinary name implies, and people extemporised beds of them, the fragrance of honey that some have being one inducement, perhaps, though the clinging nature of Bedstraws could not make them pleasant to lie upon. However that may be, they were plants once held in estimation, but in floral language they tell of "hardship," the Great Hedge Bedstraws or Scratchweed being regarded as the handsomest.

The Cleavers, or *Clivers*, originally, also Goose Grass (*Galium aparine*), had its special value. The bruised leaves were applied to wounds and hurts, while a beverage made from the plant was taken to purify the blood. Its seeds, roasted, have been used in place of Coffee berries (and that shrub is akin to the *Galium* family), also from several species a vinegar has been distilled, while the juice is used to curdle milk. 'Twas too had to make the pretty little Field Madder (*Sherardia arvensis*), with pinkish lilac flowers, a symbol of "calumny," yet thus it is, and the evergreen Madder, *Rubia peregrina*, too, which in some districts of the West grows so abundantly on downs and cliffs. Nearly related to the *Galiums* is the fragrant Woodruff, yet more fragrant when dried, retaining the scent for years; it resembles that of new mown hay, changing to a rather almond-like odour. This and other good qualities in the plant made it a representative of "worth." It is a handy species to fill up a shady corner in a garden. But, as I have pointed out to friends, the operation of the odour upon moths and other insects seems to indicate that, like our wild *Spiræa*, the Meadowsweet, if any quantity of the plant were placed in a small room, it might affect persons with headache or faintness. No evil result, however, has been known to arise from drinking an infusion of the leaves,

which was, probably is still, in Germany much drunk about May or June, not bad tasted, tourists say, with a dash of Rhine wine and some sugar. Then the dried leaves formed an ingredient in eye snuff. Our ancestors, desirous of giving the popular name its full complement of letters, often spelt it "Woodderowffe." The lesser species has pinkish flowers but no scent. This was formerly the Squinancy Wort, because it was believed to be a cure for quinsy, and is partial to the chalk. A blue variety has been produced in gardens.

Distantly related to these plants of lowly growth are the tall Teasels, specimens of which are six-footers or even more; they were made signs of "seclusion," because parties of them were noticed growing in woodland recesses. The Fuller's Teasel (*Dipsacus fullonum*) has its long leaves growing opposite, and forming a cup, which acts as a receptacle of rain, being the only British plant with the ability to store up water, like the Pitcher plants of hot countries. The name seems to have had a double meaning. The dried flower heads have long been used by cloth workers for the purpose of teasing or scratching the material to raise the nap. But the tops were also called "tassels;" proof of this appears in various references to a plot of ground known as "Tassel Close," near Bishopsgate Street, on which these plants were grown to supply the demand for them in the City. An odd notion of the olden time was that a worm or grub found in the flowers of the Teasel would relieve sickness if put in a quill and hung round the neck.

Scabiousses of several colours—purple, yellow, or white—adorn some borders and edgings during the autumn, flowers not with a favourable meaning, since it is said they tell of "disappointed affection," yet they had their high repute as curatives, hence the name, our native species being employed in curing scabs and other skin diseases. Unfortunately, however, the malignity of some evil spirit, so is the legend, prompted him to injure mankind by biting off the most valuable portion of the root of *S. succisa*, the Devil's Bit Scabious. Sheep will eat the field Scabious, but its bitter taste repels cattle. "Sorrel" at first was evidently *sourel*, or some such word, referring to the acid qualities of several plants, the name being vague, but it is now limited to some species of *Rumex* and *Oxalis*. The larger Sorrels, *R. acetosa* and *acetosella*, common in fields or waste places, with arrowy crimson leaves and red clusters of flowers, were regarded, from their colour perhaps, as symbols of "tenderness" or affection.

Their allies, the Docks, represent "patience," and truly they call forth that quality in the farmer, since their eradication from the soil is no easy matter. Our ancestors did not, however, reject some of these plants, but put them in their gardens, believing that they had their beauty of a sort, such as the Fiddle-leaved, *Rumex pulcher*, and the gold flowered *R. maritimus*, lover of marshes. From these we pass to the Wood Sorrels, of lowlier growth; emblems of "joy" are they, since the time of Gerard probably, as he states that one of the names for the common species was "Alleluia," because its flowers usually appeared at the time when Alleluia began to be sung again in churches. Or perhaps it was, so others think, suggested by the closing of flowers and leaves at sunset, and their re-opening to give a cheerful greeting to the morning light. Then Cuckoo meat was also one of its names, on the supposition that the bird ate Sorrel to clear its voice. That the plant was used by country folks is certain, both as a flavouring for dishes and as a remedy for febrile complaints. Ruskin says, that, growing beside the mountains of Switzerland, its white flowers, scattered amongst the grass, suggested a resemblance to the manna of the Israelites, at least this seems to him the likeliest explanation of its name of *Pain de Dieu*. Much ink has been shed in trying to prove that this plant, and no other, is the true Shamrock. There is much to be said in its favour, but still the point remains somewhat questionable.

Flowers both of the garden and the wild, the species of *Convolvulus* are generally admired, yet they do not bear a favourable meaning; the larger kinds are significant of "dead hope," and the humble species represent "uncertainty." This may have arisen from the fragile nature of many of their flowers, or the readiness with which they shut up. Withy-wind and Old Man's Nightcap were other names given to the larger Bindweed of our hedges, which never seems to have been put to any medicinal use in England, though it is allied to the Scammony and Jalap of the East. Conspicuous occasionally on the coast is the Sea *Convolvulus*, having large rosy flowers and fleshy leaves, *Calystegia soldanella*. The clinging *Cuscutas* or *Doddies*, of this family, are too well known in some places, as living and thriving by taking the vitality from other plants, they are emblems of "meanness," and have acrid properties, though once deemed medicinal. Special faith was put in Dodder found growing upon Thyme, since it was supposed to combine the virtues of that aromatic plant with its own excellencies.—J. R. S. C.

* "Artificial Manure." A Paper by Edmund Tonks, F.C.L., Birmingham; Cornish Brothels, New Street.



EVENTS OF THE WEEK—The week following the holidays is usually a quiet one, and with the exception of the anniversary dinner of the Gardeners' Royal Benevolent Institution, which is announced to take place in the Whitehall rooms, Hotel Métropole, on Saturday evening next, and which we trust will prove a success, no events of importance are recorded.

WEATHER IN LONDON.—Bright sunny weather still continues in the metropolis, and holiday makers have had no cause to complain, as from their point of view Whitsuntide could not have been more pleasant. Want of rain, however, is the general outcry, and much to the disappointment of gardeners and farmers the threatenings of a few days ago appear to have passed away, and at the time of going to press the sun is shining brilliantly, with no prospect of a change.

WEATHER IN THE NORTH.—Two or three peals of thunder on the afternoon of the 19th inst. brought a little rain and a decided fall in temperature for a day or two. For the rest of the week preceding Tuesday morning the heat and drought have been great, with no appearance of change.—B. D., *S. Perthshire*.

GARDENERS' ROYAL BENEVOLENT INSTITUTION.—Our readers are reminded that the fifty-seventh anniversary festival dinner in aid of the funds of this Institution will take place on Saturday next, May 30th, at the Hotel Métropole, at 6.30 P.M., under the presidency of the Right Hon. the Earl of Lathom, G.C.B., P.C. (Lord Chamberlain).

FARNHAM ROSE AND HORTICULTURAL SHOW.—We are desired to state that the show in question will be held on July 1st in the gardens of Farnham Castle, and that Mrs. Davidson, wife of the Bishop of Winchester, has kindly consented to distribute the prizes. The schedule contains nine classes for Roses, one open to amateurs and nurserymen, the remainder to members of the Society. Mr. Coldham C. Knight is the Honorary Secretary.

ROYAL METEOROLOGICAL SOCIETY.—The monthly meeting of this Society was held on Wednesday evening the 20th inst., Mr. E. Mawley, F.R.H.S., President, in the chair. Mr. R. H. Curtis, F.R.Met.Soc., read a paper on the exposure of anemometers, in which he gave the results of a comparison of the records from the three anemometers at Holyhead—viz, the Robinson, the bridled, and the pressure-tube anemometers. It was clearly shown that the force of the wind is greatly affected by surrounding objects. The author is of opinion that for an anemometrical record to be reliable and of value, not only must the instrument be exposed in an open place, free from local obstructions, but it is also absolutely essential that the stand which carries it shall offer practically no resistance to the wind, and that the instrument should not be placed on the roof of a house. The paper was illustrated by a number of lantern slides. An interesting collection of photographs of clouds, sent to the Society by Mr. H. C. Russell, F.R.S., of the Sydney Observatory, was also exhibited.

DEATH OF MR. J. BOUNDS.—It is with the most sincere regret that I send you the announcement of the death of another of our best-known Liverpool exhibitors, viz., Mr. John Bounds, gardener to A. L. Jones, Esq., Oaklands, Aigburth, which took place on Saturday morning, May 23rd. Deceased was in his usual health up to a week previous, when he caught a chill, and despite all care and attention he succumbed to pneumonia at the early age of forty-one. Coming from Herefordshire he has, I believe, been in the neighbourhood of Liverpool for over twenty years, twelve of which had been spent as head gardener at Oaklands. As an exhibitor he was always to the fore, more particularly in grouping, the last appearance as an exhibitor being at our Liverpool show. Having often competed against him there was one trait in his character which I always used to admire, viz, his perfect bearing in all his successes or otherwise. He was also on the Liverpool Committee for several years, and took great interest in the Grassendale and Aigburth Society. I feel sure that I may be permitted in my own name and for all Liverpool horticulturists to express our deepest sympathy to Mrs. Bounds and her six young children in the great loss they have sustained by the sudden calling away of their breadwinner.—R. P. R.

GARDENING APPOINTMENT—Mr. G. Carpenter, who has taken charge of the gardens of F. C. Stoop, Esq., West Hall, Byfleet, Weybridge, is welcomed back to the district in which he is known so well as a successful cultivator and exhibitor.

DAWLISH IMPROVEMENT SCHEME.—At the last bi-monthly meeting of this District Council, Mr. F. W. Meyer, landscape gardener to Messrs. Veitch & Sons of Exeter, read a descriptive paper on "How to Make Dawlish More Attractive," and also submitted plans. The Chairman highly complimented Mr. Meyer on the excellence of his designs, which it was decided to frame, and said they would receive the due consideration of the Council.

A SEVERE FROST.—The severe frost on Thursday morning (we registered 6°) was by no means kindly welcomed, coming as it did so unexpectedly. Much damage has been done, the loss to the Cheshire market gardeners being very great, especially amongst Potatoes. French and Runner Beans have suffered greatly, whilst the young shoots of Hollies and Aucubas are in several places turned quite black. It is interesting to note the hardness of some varieties of Potatoes, some being quite shrivelled, whilst others do not appear to be touched, yet all growing side by side. Perhaps other readers could give some interesting accounts on this latter subject.—R.

IN more especially low-lying districts around Birmingham the frost was sufficiently severe to totally destroy the early Potato tops, Scarlet Runner Beans, and other exposed tender plants.—G.

NEW STEAM PUMP FOR GARDENS.—A novelty in garden watering apparatus has just been brought out by Messrs. Merryweather and Sons, London. It has been constructed on lines laid down by Mr. Gibb, estate agent to Miss Alice de Rothschild, and appears to be well suited for its work. Complete with steam boiler and four-wheel carriage, it weighs about 3 cwt., and can therefore be easily wheeled about by one man. The pump is entirely of gun metal, and may be used for Hop washing and removing blight without injury to barrel or valves. The capacity is from 20 to 30 gallons per minute, and several hoses may be used simultaneously.

WORKSOP ROSE AND HORTICULTURAL SOCIETY.—The schedule of the annual show of this Society has just reached us, and we find that it is to be held in the grounds adjoining Sparken, the residence of J. D. Ellis, Esq. There are many classes (118), some coming in one section, some in another. Generally speaking the prizes are good, and should be provocative of strong competition. There are several open classes, especially in the Rose section, besides amateurs' and cottagers' classes for Roses, fruits, vegetables, and flowers. We hope the weather will be fine, and that the exhibition will be a pronounced success. The Honorary Secretary is Mr. Geo. G. Bailey, Worksop, who will gladly furnish all needful particulars.

FLOWERING TREES—How wondrously beautiful have all the May-blooming deciduous trees been this season! No doubt the Laburnum is the most widely grown, as it seems to be everybody's tree, and if not too largely planted, it is very charming. When, however, trees follow thickly, so that the surroundings of a garden are all yellow, then does even the Laburnum become obtrusive. I noticed the other day at Chertsey, where a strong stem of the Wistaria had been carried up into the head of a Laburnum tree, that the companionship of yellow and blue was not at all happy, whereas the same thing done in a White Thorn tree was very pleasing. Paul's Crimson Thorn has not only been superb this season, but it is fast rivalling the Laburnum in the abundance with which it is presented. Whites and pinks, and even reds, in double Thorns, are all very beautiful, but the crimson variety is indeed superb. Here again we see old tastes shown in planting, as at Woking I saw four trees standing in succession, and almost close together, in front of a villa without any other tree with them, and the effect was certainly too warm. Where, however, planted moderately in that sandy district, the effect was indeed all that could be desired. On Kingston Hill recently I saw two large trees standing back from the road, and amidst others that were grand masses of colour. At Coombe a tree of *Cytisus Adami*, the pink Laburnum, has just a few bud sports of the ordinary yellow form here and there in it that is very interesting, though not particularly striking. It is a wonder the Judas Tree is not more largely planted, as where it does well it is a grand flowering tree. Large standard white Brooms are very pleasing also, but the yellow one is in places too common, so that railway embankments and commons become ablaze with golden yellow.—A. D.

— THE NATIONAL AMATEUR GARDENERS' ASSOCIATION.—The Secretary of this Association, Mr. Leonard Brown, sends us a copy of the monthly "Record" of the proceedings of this Association, which is to be sent free to members; charge to non-members, 3d. It contains articles on the genesis and prospects of the Association, a paper by Mr. R. Dean on "Primulas," and other cognate matter.

— SCOTTISH PANSY AND VIOLA ASSOCIATION.—Mr. John Busby, Secretary of the above Society, has favoured us with a copy of the rules, by which we learn that the special object of the Association is to examine and compare any new varieties of Pansies and Violas not in commerce, and to award certificates according to merit, thereby giving purchasers of new varieties some guarantee of their true value. The subscription of 1s. per year gives the member the right to attend the meetings held by the Society. These number four, and are held on June 2nd and 23rd, July 14th, and August 11th, at 200, Buchanan Street, Glasgow. The Secretary will forward any desired information.

— A FLORIFEROUS STEPHANOTIS.—Recently calling on Mr. C. W. Picksley, gardener to A. Leslie Melville, Esq., D'Isney Place, Lincoln, I observed there a very fine specimen of *Stephanotis floribunda*, trained on eight wires, 16 feet long each, on the lower part of a lean-to plant stove. The roof appeared as if wreathed with white flowers from end to end set in beautiful green foliage, and to me a sight never to be forgotten. I was told that 300 trusses of blooms had been cut from the plant, 100 of them the previous night with from eight to twelve pips on a truss. I should like to know if there are two distinct varieties of this plant, or whether it is the different treatment which the plant receives under different men that produces such diverse results. Mr. Melville's plant has been in the same 12-inch pot for two years. I shall be pleased to learn what gardeners have to say on this subject.—A VISITOR.

— A PLAGUE OF CATERPILLARS.—A plague of caterpillars is, says the "Daily News," one of the troubles of the dry season, especially in Surrey. Many trees are practically divested of their foliage by these larvæ. The Oak trees, in particular, on the road from Leith Hill to Holmwood present a remarkable appearance. From the now almost leafless branches of many of them hang thick curtains of caterpillar threads, on which the grubs are descending one after another to the ground in order to make their way to some fresh pasturage. Their numbers are remarkable, and evoke incessant exclamations from the pedestrians. These are not always exclamations of wonder. It is a decided drawback to the pleasures of a country walk to find yourself suddenly breaking through a miniature forest of thin-spun viscous threads, which bring down upon you a shower of creeping things. It is to be hoped that a deluge of rain will soon free the country of this plague, which is playing havoc with the orchard trees as well as with the Surrey Oaks. The caterpillars referred to are, no doubt, the larvæ of the winter moth, *Cheimatobia brumata*, against which Paris green has been resorted to in fruit plantations.

— A GRAPE PHENOMENON.—The weekly "Notes and Gleanings" are to me a source of interest, being brief, practical, instructive, and occasionally pithy, which breaks up the stern countenance of the hard-headed practical readers, so making recreation for the mind, as well as affording food for reflection. "Phenomenons" are always worthy of investigation. How deliciously simple to a "Sussex mind," which is proverbially of a somewhat simple nature, judging from the designation or appellation passed upon the county. "Silly Sussex" is the poser which "J. S." has put forward on page 444. After describing the eccentricity of the Vine under notice, the following simple question is put to your readers:—"Is this an usual occurrence?" What a grand field is thus opened unto those whose inclinations tend towards a scientific investigation. We of the practical community would, of all men, welcome the explanation, provided words can be found suitable and sufficiently simple to enable us to grasp the intricacy of the mystery. Professor Rontgen might, by the aid of the all-powerful "X rays," be able to "throw light on the subject," and explain to "J. S." the course which guides the sap or nutritive power of the Vine in question to transform the whole system, and bring about the wonderful change recorded—viz, of turning a "Black Hamburgh" into a "Muscat Hamburgh" without severing the branch from its original stock. I must, for my own part, confess to having formed an opinion, which I make bold to think is shared by many others of the craft, that this is, on the part of "J. S." or his informant, a clear case of mistaken identity. If not, then truly my vision is obscured by one of the "dangerous fogs," which "H. D." so kindly wishes me to guard against.—F. DUNN, *Oakleigh*.

— A NEW RECREATION GROUND.—The latest open space acquired by the London County Council—the Hilly Fields at Brockley—has been formally dedicated to the public by the Chairman of the Council, Sir Arthur Arnold. The Hilly Fields occupy a commanding position in the south-east of London, and afford a bright and breezy prospect which is almost unique in that part of the metropolis. The new recreation ground, which has now been laid out by the County Council and taken over by them in perpetuity for the public, extends to 45½ acres on the borders of the parish of Lewisham, and is near to the crowded parish of Deptford.

— SPINDLE TREES AT WORTHING.—Notable features amongst the vegetation of Worthing is the profusion of the Japanese Spindle Trees (*Euonymus japonicus* and *variegatus*), of which there must be miles of hedges attached to numerous residences and for other garden ornamentation. Mention may also be made of the numerous fine specimens of the double and single-flowered scarlet and pink Hawthorns, as they are at the present time a most striking feature of the place, more especially in one instance where there are upwards of a dozen fine specimens growing in a line in front of a large old villa, and forming as they do a "May" garland of infinite beauty. Unfortunately, however, it is rumoured that they may have to be destroyed ere long as the room is required for building.—W. G.

— THE LAW ON MUSHROOMS IN FIELDS.—Mr. James Hunt, 12, Hampton Park, Bristol, manager of the "National Trespass Agency," in a prospectus just issued, reminds all whom it may concern that "Taking Mushrooms without permission, spawn having been planted about the fields, is larceny (24 and 25 Vic. cap. 97, sec. 24), and offenders can be given into custody." It is therefore suggested that owners or occupants of land should plant Mushroom spawn in the fields so as to be able to insist upon permission being obtained before Mushrooms can be gathered by strangers. It is further stated that a member of the Society alluded to sold £55 worth of Mushrooms off his open pasture fields in 1895, though living near a large city. Before having the protection of the Society he had to employ men day and night to protect his crop.

— NEW OPEN SPACE IN BERMONDSEY.—The disused Friends' Burial Ground in Long Lane, Bermondsey, was recently opened to the public as a recreation ground by Mr. Ambrose Pomeroy, J.P., Chairman of the Bermondsey Vestry. Those present included Lord Teynham, Deputy Chairman of the Metropolitan Public Gardens Association, and Mr. W. H. C. Payne, L.C.C., and a large number of ladies and gentlemen connected with the Vestry. The Burial Ground, which is about half an acre in extent, has been concreted all over except a narrow strip along the eastern side, which has been planted with shrubs. There is also a large fountain, which has been erected at the expense of Mr. Pomeroy. The Metropolitan Public Gardens Association secured the transfer of the ground to the Vestry from the Society of Friends, and contributed £150 towards the expense of laying it out, providing also the seats.

— THE ROYAL GARDENS, KEW.—Particularly attractive at the present season is this notable old national establishment, and rendered additionally so by at least two or three denizens of the aquatic house in particular, such as a grand specimen of *Solanum Wendlandi* with its numerous bright green-leaved long shoots clothed with long terminal cymes of from fifteen to twenty or more flowers each, which vary from 1½ to 2½ inches across, of a light purplish blue, and with a club-like cluster of yellow stamens, trained over a portion of the aquarium. In association with this showy plant is one of its congeners, *Solanum Seafortianum*, a comparatively new species much resembling *S. jasminoides* in habit and growth, but quite distinct in colour of blooms. These are large and borne in panicles, each consisting of about forty fragrant flowers of a lilac blue colour with golden anthers, similar to *Wistaria sinensis* in effect. Then there is a plant of the yellow coloured *Bignonia Tweediana*, vigorous plants of *Ipomœas digitata* and *Hardingi* with their individual shades of pinkish purple flowers, whilst a fine mass of the tall-growing *Cyperus papyrus* (Paper Reed) growing in a luxuriant mass of *Pontederia cordata*, or the Bladder plant, assists to create a very striking effect. But more attractive than all is a profusely flowered specimen of *Bougainvillea glabra* (Sanders' var.) hanging in stately array from the roof of the small stone entrance to the aquarium, reminding one of the gaudy train of a lady's dress. It was a happy thought that led to the chief portion of the plant being allowed, when in flower, to depend from roof of the house to the floor. As may be readily conjectured that in addition to the foregoing there were several other plants of a similar character equally interesting, especially after an absence of upwards of thirty years to—A VISITOR.

— MYOSOTIS ALPESTRIS VICTORIA.—I was pleased to see in your report of the spring bedding at Belvoir that mention was made of the above. When recently visiting Lockinge Park I noticed several large beds a mass of bloom, and contrasted well with a double white Tulip with which the plants were intermixed. Besides being later in flowering than *M. dissitiflora*, it is a deeper and more intense blue, with a much better habit, and is sure to become popular with all lovers of spring bedding.—H. W. B.

— ROYAL PEAS.—We are informed that Messrs. Sutton & Sons' Peas exhibited at the Temple Show, and the acceptance of which by Her Majesty we notified last week, were arranged in the grand entrance hall of Windsor Castle, and inspected by Her Majesty the Queen on Friday the 22nd inst. Messrs. Sutton have received a letter from the Master of the Household (Col. Lord Edward Pelham-Clinton) conveying the thanks of the Queen for the beautiful Peas and Tomatoes kindly sent for Her Majesty's gracious acceptance.

— SHERBORNE GARDENERS' SOCIETY.—Judging by the programme of the year's meetings before us, this excellent Dorsetshire Society seems to lead a perennial existence, for a paper, lecture, or show seems to be provided for each month of the year. A pleasing feature also is the offer of small prizes or certificates of merit for certain specified exhibits at each gathering, as, for instance, on the 6th inst., when Mr. J. Crook of Forde Abbey Gardens, Chard, gave a lecture to a large body of members on "Hardy Plants and Bulbs in the Garden," and which was highly appreciated; the subjects asked for exhibition were Pansies, Tulips, and Auriculas. The year's course includes with full impartiality flowers, fruits, and vegetables. We cordially wish for the Sherborne Society all usefulness and prosperity.

— WAKEFIELD PAXTON SOCIETY.—At the ordinary weekly meeting of the members of this Society on Saturday evening, the 16th inst., there was a large attendance. Mr. B. Whiteley presided, and Lieut. Goodyear was in the vice-chair. The lecturer was Dr. Clark, of the Horticultural Department of the Yorkshire College, who delivered a very able and most interesting lecture, entitled "There were Giants in Those Days." The lecture was illustrated by a large number of well-executed photographic slides, which were cleverly thrown on the screen by Mr. Harold Parkin. The lecture dealt with the monster animals, birds, and fishes which existed in the early period of the world's history. The photographic views were clearly and fully explained by Dr. Clark, who imparted a great amount of interesting information to his audience.

— SECHIAM EDULE.—Although fruits of this perennial member of the Cucurbitæ family have been seen in Covent Garden Market, imported here from Madeira, yet are they comparatively unknown, not merely to the public but also to gardeners generally. Commonly called "Chocho," these fruits are green in colour, Pear-shaped, very irregular, shiny, and of good size, weighing about 16 ozs. each. Cooked whole in their coats, with the latter afterwards removed, and served up with gravy or sauce, they constitute a dish esteemed much superior to any Vegetable Marrow. The plant is a native of Central America, and was some years ago transported into the West Indies, where in the hilly districts it is grown freely and fruits abundantly. It has also been introduced to Ceylon, the East Indies, and Madeira. The other day we met with plants of it growing in one of the long Palm houses in Mr. T. Rochford's famous Broxbourne nursery, where it is trained from both sides on wires up under the glass, and in a temperature of about 60°. The roots, which are of a thick fleshy nature, are perennial, and in sufficient warmth maintain perennial growth. The fruits, I believe, produce one seed only, and when mature or ripe this seed will germinate. The fruits are then planted, and new plants result. The *Sechium* may also be propagated by means of cuttings just as Cucumbers are. Mr. Rochford is extending his culture of this Gourd, and possibly may be able with home-grown fruit to popularise it in the market. Gardeners generally who can spare one end of a warm house may find this Chocho worthy of attention as a vegetable product for table consumption.—D.

A CROWNING MERCY.

THIS spring with us has been like the spring of childhood's days, when the sun ever shone brightly and the cold winds never blew, when life was one long joy tempered only by thoughts of the school-room, happy days when we had no anxieties about weather. Being on strong land we soon, however, learned to dread Turnip time with a rainless sky, but I fear we quickly forgot the cloud on our father's brow. Oh! these days of April and May have been glorious—brilliant sunshine, deep blue skies, with only slight frosts. You hear of Italy's cloudless beauty, but this has been more than Italian, for the green of grass and tree has been only what could be seen in England.

It was such a drawback to our joy to think that this beautiful sun was doing harm. And we, who depend on the produce of the land for a livelihood, like Elijah on Carmel, prayed for the rain-cloud. Our hearts almost failed as we saw the work of the year in jeopardy, pastures getting bare, Lenten corn struggling for subsistence, the Mangold and Turnip seed lying dormant. The well cultured garden and forest trees held out the longest, but even there the fresh turf was losing its freshness, and signs of mildew were on the Roses. The early flowers blossomed and died without a baptism, and the Fern fronds could scarcely uncurl.

Monday in last week the heat was tropical. News came of welcome showers some miles away, but still the skies were as brass. Tuesday found us with a sudden drop in temperature with a falling glass. Wednesday broke with gusty storms of wind and scanty showers—scanty, but so grateful. Thursday the clouds gathered in masses, travelled rapidly over the heavens, only to disappear in the horizon. Our hope was gone, and we feared had taken the showers with it. But, oh! the change this Friday morning; positively rain pools on the road, the heavy heads of Lilac and Chestnuts bowed down with tears, every blade of grass sparkling, and the scent of the Hawthorn overpowering. No passing shower has this been, no promise of blessings, but the blessing itself, the generous gift of the Giver of Life.

Never mind the few drops; come out with me and drink in the joy and beauty of renewed life and hope. Our hearts are fairly ready to burst with thankfulness. It is only those who wait on Nature who can appreciate what our need has been, and who can enter now into the fulness of our joy. The ground was so hard that bird house-keeping must have presented many difficulties; now worm and grub are as plentiful as ever was corn in Egypt, and the birds do not forget their meed of joyous praise. What a pity there is work indoors when Nature calls us to come out and enjoy her fragrance and beauty. It is only a stern sense of duty can keep me to my needle; but as I sit at the open window and hear the whirl of grass cutter, and see the rain-bedewed faces of the flowers and the freshly washed green leaves, my soul is filled with loving gratitude and heartfelt praise.—THE MISSUS.

THE BEAUTIES OF MAY.

THIS is perhaps the most beautiful period of the year. The Sycamores, Beeches, Birches, and Chestnuts have assumed their virginal luminous hues; the bright yellow blossoms of the pendulous Laburnums gleam amid the dense masses of many-coloured foliage in the woodlands with a beauty all their own, and the waysides are glittering with millions of flowers, which are not the less fascinating because they are so short-lived.

Every lover of Nature has doubtless, in accordance with his instincts or his mental characteristics, his own peculiar favourites among these. My own are the Wood Sorrel, the graceful Herb Robert (*Geranium Robertianum*), and *Scilla maritima*, at present clothing the rocks on the west coast of this peninsular and my romantic parish with a deep blue, rivalling that of the encompassing sea. The Wood Sorrel (*Oxalis acetosella*) was greatly admired by the late Mr. Matthew Arnold, also by his gifted poetic contemporary, the Earl of Rosslyn, who wrote that memorable line regarding the Gentian in one of his finest sonnets, when he saw it for the first time covering the Tyrolean Mountains with its own ineffable loveliness:—

"The Gentian robs the heavens of half their blue."

Another sylvan flower of great sweetness is the white Campion, which, however, I have only once had the gratification of discovering in this district. The wild white Hyacinth, while equally attractive and much more fragrant, is not so rare, for it is discoverable in the woods surrounding Logan House, though it is quite possible that it may have originally been planted there by someone, as *Narcissus jonquilla* undoubtedly was. Nothing could be more commanding in artistic effect than that picture which is everywhere at present produced by the azure Hyacinth in our shadowy Scottish glens. It is only equalled by the snowy whiteness and delicate, yet most penetrative fragrance of the Hawthorn—the bride of the woodlands—which, as I anticipated in my article on April, is now making glorious with its presence the flowery paths of May.

In my garden, with the fall of the Apple blossoms which have this season been phenomenal in their luxuriance, the Auricula and *Narcissus* are passing swiftly away. The late flowering florist Tulips still remain to gladden our vision with their graceful, distinctive formation, and tenderly pencilled hues; and Roses are already beginning to appear on such early flowering and effective varieties as *Souvenir d'un Ami*, *Homer*, *Niphotos*, and *Gloire de Dijon*. The reign of the *Aquilegia* has just begun, *Cœrulea hybrida*, the Rocky Mountain Columbine, which has proved itself a veritable perennial here, and *A. canadensis* being at present in full bloom. Ere long will follow *A. californica*, of brilliant complexion; *A. Stuarti*, a native of Berwickshire, somewhat arduous of culture; *A. glandulosa*, from the Altai Mountains in Siberia; and the Californian *Chrysantha*, of lustrous primrose hue.

The St. Brigid and Sutton Anemones, for the former of which I am indebted to Mr. F. W. Burbidge, who sent them to me; also *Anemone fulgens* and a semi-double pure white variety, whose name (if it has any) I have not yet discovered, but which, I may add, I admire even more than if I possessed the necessary information; these, in conjunction with the contemporaneous *Aquilegias*, will brighten my borders till they find delicate successors in the Lily and the Rose.—DAVID R. WILLIAMSON.



ROSE SHOW FIXTURES IN 1896.

- June 17th (Wednesday).—York.†
 „ 18th (Thursday).—Colchester and Isle of Wight (Ryde).
 „ 24th (Wednesday).—Reading (N.R.S.), Richmond (Surrey).
 „ 25th (Thursday).—Hereford.
 „ 27th (Saturday).—Canterbury, Southsea, and Windsor.
 „ 30th (Tuesday).—Maidstone and Sutton.
 July 1st (Wednesday).—Croydon, Ealing, Farnham, Farningham, and Leatherhead.
 „ 2nd (Thursday).—Bath, Eltham, and Norwich.
 „ 4th (Saturday).—Crystal Palace (N.R.S.)
 „ 7th (Tuesday).—Harrow, Wolverhampton.†
 „ 8th (Wednesday).—Canterbury (Hospital Fête), Chelmsford, Hitchin, Lee,* Newcastle-on-Tyne,† Redbill (Reigate), and Tunbridge Wells.
 „ 9th (Thursday).—Helensburgh, Woodbridge, and Worksop.
 „ 14th (Tuesday).—Westminster (R.H.S.).
 „ 15th (Wednesday).—Ulverston (N.R.S.)
 „ 16th (Thursday).—Halifax.
 „ 18th (Saturday).—New Brighton.
 „ 21st (Tuesday).—Tibshelf.
 „ 29th (Wednesday).—Chesterfield.
 „ 30th (Thursday).—Trentham.
 Aug. 5th (Wednesday).—Chester.*
 „ 19th (Wednesday).—Shrewsbury.*

† A show lasting three days. * A show lasting two days.

Any dates not appearing in the present list I shall be glad to publish in the next one.—EDWARD MAWLEY, *Rosebank, Berkhamsted, Herts.*

NATIONAL ROSE SOCIETY'S SHOWS

WE are reminded of how close we are to the "reign of the Roses" by the receipt of the schedules of the three shows that are held annually under the auspices of the National Rose Society. The first to come will be on June 24th at Reading (the southern show), which will be held in the Forbury Gardens, situated about five minutes from both the railway stations. Messrs. Sutton & Sons are offering a silver cup in an open amateurs' class for twelve distinct, single trusses, as a first prize, the other prizes being medals and money. This should bring strong competition. There is also for competition here a silver challenge cup, the residential qualification for which is "within ten miles of Reading Market Place," while the flowers must be twelve Teas or Noisettes, not less than six varieties, or more than two of any one variety. In all there are thirty-nine classes, and it is to be hoped that the competition will be keen throughout. At the Crystal Palace on July 4th we shall see the Metropolitan show, while on the 15th of the same month the northern exhibition will be held in Ulverston, but to these we hope to refer at a later date.

ONLY ONE!

APROPOS of aphides, in "W. R. Raillem's" notes, it is the being on the watch for No. 1, and administering the *coup de grâce* speedily, that will save an infinity of after trouble. Only this past few days have I seen the black aphid on the Morello; but in those few days the monster maternal aphid, that might have been crushed a week ago, has on many shoots a numerous offspring.

What every gardener needs is the watchfulness of the first perfect insect in all insect troubles. Being certain that your insect is injurious to your foliage or fruit, have no mercy. In this insect slaughter no doubt we, in our ignorance, often do wrong, and kill a friend in place of a foe; but the rapid increase in insect life is so great that this evil has to be risked. The enemies of the aphid are the ladybird, the lacewing fly, and the smaller wasp-like balance flies; and it always seems to me that every gardener should learn to recognise these either as larvæ or perfect insects.

But as an instance of the folly of leaving the first observed insects unmolested, I give the following, which occurred to me some fifteen years or so ago:—I premise that in my boyhood I had closely watched all the changes of the vapourer moth (*Orgyia antiqua*) from egg to perfect insect, even to making the acquaintance of the ichneumon that preys on it. Well, in the year I am writing of, I found one or two caterpillars on a very large Pear tree trained against my house. Old regards for the insect led me astray, and I did not kill the same.

Now, be it recollected, that in this case the female does not lay many eggs—rarely, I should say, over 300; but the following year—not only on the Pear tree, but on my Roses—the pretty caterpillar, with its hairy horns and coloured tufts, was a pest. Daily I used to take a long stick and brush upwards the Pear leaves to dislodge the larvæ, and the slaughter on the pavement beneath was constant, for the foliage of the Pear was suffering greatly. Not content with this constant worrying, I had the hedges under the windows and the roof searched in the winter for the cocoons covered as they are by the eggs laid by the female, and

brought down and burnt. It was miniature independent file firing! But it took me two or three seasons to get perfectly clear of them, and it was only accomplished by diligent search both for larvæ and cocoons; and this trouble might all have been avoided by slaughtering the No. 1.—Y. B. A. Z.

NECTARINE CARDINAL (RIVERS).

AS was indicated in our report of the Temple show last week, where this Nectarine was certificated, the variety is the earliest to ripen of all, and as the fruits are of good medium size and where exposed of a glowing reddish crimson colour, Cardinal bids fair to become a favourite for forcing purposes. It has certainly been well tried by its raisers for some years and not found wanting in making money in Covent Garden Market. It is not recommended by Mr. Rivers as a robust hardy variety for open air culture, but only for growing under glass, and as growing in pots at Sawbridgeworth the trees are as healthy and fruitful as the most fastidious could desire. The fruits are usually too numerous, and have to be thinned freely. For having them of full size they should not be allowed to grow in pairs as shown, but remain 5 or 6 inches apart on the branches of well-fed trees. The fruits are round, some of them inclining to oblate, though occasionally a small nipple is produced. The skin is, when not shaded, a sort of cardinal red and more or less mottled. The flesh is tinged with green, slightly adhering, rich, juicy, and delicately flavoured—a fruit for a connoisseur. The flowers are large and very beautiful, and the leaves have small kidney shaped glands. As has been previously stated the fruits ripen ten days in advance of Early Rivers. They are not quite so large as that famous variety, but are equal to it in quality, and more need not be said.

THE R.H.S. AND PROVINCIAL SHOWS.

WHILST "D. T. F." says truly enough (page 449) that it is not possible to convey all our horticultural treasures from the provinces to London, and under no conditions is there any need for such transportation, yet when he shows what wonders in that direction the exhibitors from all parts of the kingdom do at the Crystal Palace Co-operative Exhibition in August, he largely gives away his case. But I may go farther and show that these provincial treasures do come to London largely from considerable distances to the Temple show annually, and ere this appears in print there will be ample demonstration of that fact on the Thames Embankment.

But after all this is a small matter in comparison with what was shadowed forth in your leader of April 30th, wherein you intimate that when the deputations appointed by the Council of the Royal Horticultural Society visit Chester and York, as it is purposed they shall do during the summer, they will be empowered, apart from granting medals, with respect to which no exception can be taken, also to award certificates of merit to what may be regarded as worthy exhibits. If I am incorrect in my assumption then I apologise, but I am writing solely in the belief that my surmise is correct. If it be so then the deputation, let it be made up from who it may, will be seriously infringing upon the rights and duties of the respective Committees, who, so far, have always been regarded as the sole depository of the power to grant certificates of merit.

It would be very peculiar indeed if after promulgating the regulation that even awards of merit may not be granted at Chiswick by the members of the Fruit Committee except eleven be present, should a lesser number of persons, some of whom may not be members of either Committee, proceed to grant certificates at provincial shows. If such certificates are to constitute awards of the Royal Horticultural Society on the same basis as are those made by the respective Committees at present, then may the Council or the deputations in question come into serious conflict with the Committees.

Disappointing as it may be to provincial exhibitors, I trust that there is after all no such intention as your leader foresadowed. Could the Committees respectively be summoned to sit at Chester or York, and sufficient numbers of those bodies could accept the summons and do so, all might be well; but it is hardly probable that members could afford to pay, say from £3 to £5 each expenses, or that either the Council of the R.H.S. or the Chester or York authorities would care to do so much for the members. The matter is a serious one, as one of the great characteristics of the R.H.S., through its Committees, has from the first been a policy of continuity, and that policy would be utterly broken down and old-established rules violated were other persons than the Committees respectively authorised to grant certificates. The subject does but show after all how much room there is for re-arrangement of the present position of the R.H.S. in relation to provincial societies.—A. D.

As an outsider, but not uninterested in the visit of the Royal Horticultural Society to my native county, I should like to notice one or two points in the letter of "F. U. Y." in your issue of the 14th inst. (page 449). It is no part of my intention to discuss the propositions of your correspondent, because for one thing I am not able, and for another they do not concern me. Nor am I going to bother myself about

the next decade ; it is enough for me that the York show is to be visited this year by representatives of the chief Horticultural Society of the kingdom, and that the honours of that Society are to be granted for meritorious products, without prejudice to exhibitors who may compete for the prizes offered in our schedule. And this brings me to a point that seems to be regarded as a difficult one by "F. U. Y."—the granting of extra awards by the R.H.S. deputation without clashing with the work of the official judges.

It seems to me it is just because the classes are not specified to which the extra grants may be made that there can be no clashing. The judges will do their duty exactly as if there were no deputation, and award the prizes contained in the schedule. The deputation can supplement such of these awards as the members think fit, as well as grant R.H.S. honours to any exhibits that may not be provided for in the

not placed in competition, but which often add materially to the completeness of a show. There is no difficulty in such second look round for the purpose in question, at least I have neither seen nor heard of any such. How, then, can there be any difficulty in the R.H.S. deputation following the judges in exactly the same way, and granting special honours wherever they may be thought to be deserved, whether the exhibits have won prizes in competition or whether they are outside the provisions of the schedule?

The deputation will have no power to upset or alter a single award that may have been made by the official judges. No prize can be reduced by the visitors, but its value can be added to in the case of exhibits being regarded as specially meritorious. But it may be said, "The deputation may give an extra award to a second prize exhibit while passing the first, and there would be clashing." Not necessarily.



FIG. 81.—NECTARINE RIVERS' CARDINAL.

schedule. It will be simply a recognition by the Royal Horticultural Society of meritorious work at a provincial show, without depriving any exhibitor of any prize he may win in class competition ; nor will any person be diverted from exhibiting in any class. To specify either classes or products for R.H.S. awards would amount to an interference with local arrangements that could neither be satisfactory to the Committee nor exhibitors, and the dreaded "clashing" would be inevitable.

As it is there can be none. There will be nothing to clash about that I can see. The local society is free to carry out the whole show and judging arrangements as usual, and the R.H.S. deputation will have equal freedom to act in the distribution of special marks of approval. "F. U. Y." suggests by his remarks that he is a red tapist. I like the plan as it is understood at York, because of the absence of red or any other shackling tape, and I think it capable of being carried out with the greatest ease.

On many occasions I have seen, when the awarding of the prizes in schedules is completed, certain men told off for recommending medals, certificate, highly commendeds, and such-like to meritorious exhibits

The premier Rose, Chrysanthemum, best dish of Grapes, or anything else in a show for which special prizes have frequently been given, have by no means been found in first prize collections, and we often see some particular specimen of plant or fruit of commanding excellence in an exhibit which contains other examples too weak to enable the collection as a whole to merit the chief award. I have heard judges regret very much that they had nothing to give to something of a distinctly superior character in such cases. The R.H.S. representatives will have power to do this if they like ; but as to putting themselves in conflict with such experienced judges as are found at, I have no doubt, all really great provincial shows, the idea is preposterous. I do not imagine the judges at York will fear any such thing, and if they do not I fail to see that other persons need trouble their heads about it.

I think it a step in the right direction for the Royal Horticultural Society to recognise provincial work in a direct manner as far as may be found practicable, and I have a very good reason for expressing satisfaction in the visit of the "Royal" in June to our old City, and that is because I am—A YORKSHIREMAN.



FRENCH NATIONAL CHRYSANTHEMUM SOCIETY.

As it is quite within the bounds of possibility that some of our English raisers and growers of Chrysanthemums may wish in the coming autumn to exhibit some of their novelties at the Floral Committee meetings of the French N.C.S., it occurs to me that a few notes on the Floral Committee regulations, which have recently been settled, may be of interest. There are sixteen regulations in all, and the following is a brief summary of them:—

- 1, Anyone, whether a member or not, can exhibit.
- 2, Meetings will be held as follows—one in October, two in November, and one in December. The dates will be fixed later on. They will be held in Lyons.
- 3, Eight days' notice, specifying the number of varieties intended to be shown, should be sent to the Secretary.
- 4, Exhibitors will not be allowed to be present unless specially required by the Committee to answer questions.
- 5, Cut blooms and plants will be grouped in two sections each—viz., new seedlings and varieties already in commerce. They may be submitted as large blooms or grown without disbudding. Dressing will disqualify.
- 6, Not less than five blooms of each variety must be shown, and in the case of a sport two blooms of the parent must accompany them. Stems must be about 20 inches (50 centimetres) in length, and bear the foliage. When submitted as a decorative variety a plant in a pot must be shown. The varieties must be named. Any variety bearing an old name cannot receive a certificate.
- 7, A scale of points is given in this regulation by which the varieties will be judged.
- 8, Certificates will be granted by the votes of the majority present. The minimum number of points to qualify for certificates is fixed at eighty.
- 9, 10, and 11 are similar to 6, 5, and 7 of the English N.C.S. Floral Committee regulations.
- 12 deals with the election of a chairman and a secretary.
- 13, Three members form a quorum.
- 14, 15, and 16 are almost identical with 10, 9, and 12 of the English Society's.

The requirement of five blooms seems rather severe after a long experience with our English methods; but if these regulations are carried out strictly, and there seems to be no reason to doubt that such will be the case, it is evident that our importers will be immensely benefited. A variety that gains not less than eighty points out of a possible 100, and is shown with five blooms, and thus receives a certificate from the French Society, ought in all conscience to be a safe investment for any member of the trade here. The only weak point I see is that the French Floral Committee consists of so small a number as nine members, and that three form a quorum.—C. H. P.

GARDENERS' ROYAL BENEVOLENT INSTITUTION.

SOME time ago Mr. Ingram, the energetic and popular Secretary of the Society, wrote to me asking if I would act as one of the Stewards for Nottinghamshire in regard to the fifty-seventh anniversary festival, to be held on May 30th. I at once consented to do so and started with the collecting card, but quickly found two others, both well-known hard workers for the cause (Mr. Slade, Clumber, and Mr. Mallender, Hodsock), were before me. Not caring, however, to acknowledge myself beaten without still further efforts I asked Mr. C. W. Lister-Kay, agent to the Rt. Hon. F. J. Savile-Foljambe, to help me, and suggested that the gardens and grounds should be thrown open to the public at a small charge for admission. He at once fell in with my views, and kindly offered to put the matter before Mr. Foljambe, and in less than an hour told me that the above gentleman gave his cordial approval to the project.

I felt perfectly happy then, for with our popular squire and his agent at my back I felt that I could make a bold stand. We immediately had posters put up in Worksop and Retford, and some kind friends, including Mr. C. W. Lister-Kay, selling 1s. tickets. Mr. Foljambe took a thorough interest in it, and wished for everything to be in perfect order so that all should have their shillingsworth. I spoke to my men and asked them to put in a few hours' overtime for love, and for several days we worked early and late planting some thousands of bedding plants, and by Monday night, the 18th inst., things began to look "spick and span." I thought I could spare time to run up to the Temple show (which I have not missed for many years), so I caught the mail at Retford on Tuesday morning, and was at the Temple by nine o'clock. A few profitable hours were spent. Rivers' Nectarine "Cardinal" was tasted, many old friends met, and I returned home that day, and after a look round the grounds went to bed feeling sure of success.

But on Wednesday morning what a change! Branches of trees were lying about in all directions, plants were blown out of the beds, a bitterly cold wind continued all day, and at 11.30 P.M. the glass

was standing at freezing point. We had used all the mats, shading, and everything we could secure for covering the flower beds, and I retired feeling considerably depressed. On Thursday morning I turned out at 3 A.M. and found all my men waiting. One grand old man—Wm. Hallam, over seventy, who has worked here almost all his life—greeted me with, "We shall be all right yet, measter; this will be a gran' day." And so it turned out. They all worked with a hearty goodwill, not even stopping for breakfast, and by eleven o'clock, the time advertised for opening the doors, we were ready.

A few minutes later a gentleman and lady from Carlton drove up to have a peep "before the crush," and they complimented us on the tidy appearance of the place. The leading families of the district splendidly supported the cause, also the principal tradesmen in Worksop and Retford. I enclose a letter (see below) received from the popular squire of Gateford, who, although suffering from a sore throat, felt bound to ride over to "pay his respects" and leave £1 at the gate. Three hundred and fifty paid for admission, and were told on entering to go where they liked and do as they liked. They wandered through the vineries, pineries, Peach houses, stoves, Malmaison house, and not a fruit or flower was touched or the slightest damage done, which will give some idea of what our Worksopian friends are like. There may be as good elsewhere, but there are no better in the world.

I have £21 18s. to hand over to Mr. Ingram, and I feel confident that had it been fine on Wednesday, and the Doncaster races *some other day*, we should have doubled it.—T. H. CRASP, *The Gardens, Osberton, Worksop.*

Mr. Machin wrote as follows to Mr. Crasp:—"I was so pleased with the kindness of your squire, and the promotion on your part of such a noble venture yesterday, that I felt bound to pay my respects to you both by calling at the gardens yesterday and leaving a sovereign at the door for the good of the Society for which you so kindly threw open the gardens. I had a sore throat and so did not come in. I should have liked to have stayed to show the interest I take in your craft, and in all respectable (most of 'em are respectable) members of it. I hope you had a good gate."

MR. HORNER'S GARDEN.

(Continued from page 478.)

THE Orchids and the Orchid house now claim our attention, both being alike characteristic of the individuality of their owner. The house is a lean-to, 60 feet long by 12 feet, with an annexe on a different level for securing different conditions and temperature conformable to the experimental cast of mind which induces Mr. Horner to find out the exact spot in the house most suitable for the well-being of individual plants, although grown with a mixed collection. In this direction he has achieved successful results where other growers with less tenacity of purpose must have failed.

In the construction of the Orchid house the healthy requirements of the plants has in no way been sacrificed to architectural effect. The fittings are of the simplest character. A substantial flat bench on each hand comprises the staging; without flagging the original soil beaten firm forms the pathway. The hot-water pipes arranged along the back wall as a flow and return 4-inch pipe; the same quantity of piping along the front of the house; but to accommodate what are usually considered to be tropical plants about 20 feet in length double quantity of piping has been provided. Sufficient space along the back wall is left unstaged to allow attendance on the crowd of plants suspended from the roof. Several shallow tubs kept partly filled with rain water are placed at intervals under the stage, whereby an effective and expeditious means of watering the plants is provided.

Constructed on these simple lines every square inch of surface is an absorbent of moisture, which is again given off as the air of the house becomes dry by reason of artificial and sun heat. The consequences are at all times a buoyant and well-balanced atmosphere, pleasant to promenade in by those interested in viewing the plants, and equally suitable to the well-being of the stock, as their healthy condition abundantly testifies.

Amongst other factors tending to success may be added the enthusiastic cultivator's instinct which prompts Mr. Horner to be ever working out unsolved cultural problems—never resting satisfied until he has made refractory plant amenable to his will and pleasure. As an example we may quote his (up to now) unsuccessful efforts to bloom the shy *Cattleya gigas*; so long as his active mind can suggest likely measures to the end in view there will be no relaxation in his attempts. After various other experiments a starving process is being tried, which has induced a wonderful development of roots that are now attempting to derive their necessary nourishment by clinging to the back wall of the house. Again, the plant of *Dendrobium Harveyanum*, although in no sense difficult to bloom when suitable environment is found for it, yet its requirements have been closely studied, and after numerous experiments it is found to grow and flower the best at only a certain distance up the rafter at the warm end of the house, and the short distance of one foot alteration in height from that point in either direction makes all the difference in its well-doing.

At this point a few words upon this novelty will be appropriate. The plant has a somewhat curious and adventurous history. At an early stage of its existence it was stolen out of a batch of newly imported plants. However, that conscience which made a coward of this class of Orchid fancier ending in confession, and offer of reparation by the

penitent to the original owner ended in the payment of half a crown, the supposed value of the plant at the time. Eventually it drifted into Mr. Horner's hands, who flowered it at an early stage. The progress and development of each year's pseudo-bulbs are an interesting study in Orchid development.

The earlier growths show a dwarf truncated form, each succeeding year's growth showing a distinctly progressive change of habit in the direction of the growth and style of the strongest species; of course, to what dimensions it may attain to can only be settled when the plant has attained its full development. The plant already shows a very floriferous habit, having bloomed from small growths 6 or 7 inches high in racemes of eight or ten flowers; but each raceme may be expected to produce a larger number as the growths increase in strength. The colour is unsurpassed in its rich golden sheen, but the striking feature is the marvellously abundant fimbriation of the alternate divisions of the perianth, including the labellum, the unfripped divisions standing out in marked contrast, stamping the flower with a distinct individuality, combining novelty and beauty in its very wantonness. There is not a plant in the whole collection which does not receive from Mr. Horner careful study of its habits and requirements, but *Dendrobium Harveyanum* has won his admiration and enthusiastic care in an especial degree.

Without partition, a wide range of "orders" and species, including intermediate and stove plants, are successfully cultivated in this house. Including many varieties of special merit we noted over thirty species of *Dendrobiums*. Amongst those in bloom the beautiful *D. Phalaenopsis* in its wide range of colour, *D. dixanthum*, a beautiful primrose shade, and a magnificent seedling form of *D. Dalhouseanum*. The beautiful contrast of its transparent amber petals and sepals, with the intense dark labellum about 4 inches across, along with its freely produced racemes, each carrying towards a dozen flowers upon its noble growths, stamps this species as the queen of *Dendrobes*. Mrs. Horner, who is as enthusiastic an orchidist as her partner, has reasons to be especially proud of this specimen, it being one of those added by herself to the collection. The hybrid *Dendrobium Endocharis* has also found a home here, along with a single bit of the only importation of *D. Imperatrix*, now all lost except this plant of it.

A fine selection of the best *Cattleyas* also finds a place, grown in baskets suspended from the roof, some in active growth, and others breaking away with vigorous buds. The keynote of their successful culture appears to be the smallest possible quantity of compost about their roots, and constant attention to atmospheric conditions. Their root development is remarkable, being truly aerial, and consequently approaching as near as possible their natural conditions of habitat and environment. Worthy of notice were a remarkable fine lot of *C. citrina* showing bloom in abundance, and specimens of *C. tenebrosa*, *C. Rex*, *C. Mendeli*, *C. Warneri*, *C. Trianae*, *C. cinnabarina*, *C. Schroederi*, *C. aurea*, *C. Schilleriana*, *C. Schofieldi*, *C. speciosissima*, and *C. labiata*.

Several specimens of the still cherished *Laelia purpurata* were bursting their flower spathes. *Laelia anceps* and *Laelia anceps alba* were in fine condition. *Cypripediums* are not largely grown, but a few of choice varieties were in bloom, including good forms of *C. bellatulum*, *C. Chamberlainianum*, and *C. Charlesworthi*. Of *Angraecum sesquipedale æstivum* two plants were in bloom, one of which is a very superior variety. *Cœlogyne Massangeana* and several *Vandas* in bloom also added to the general interest of the collection.

In addition to the Orchids, many other plants of botanical or economic interest are grown as object lessons to the rising generation and others, and prove to be most interesting at the local horticultural show, in which Mr. Horner is naturally much interested. Amongst them are fine specimens of *Aristolochia elegans*, *Pilocereus senilis* (the Old Man Cactus), *Papyrus*, *Calla Elliotiana*, and the remarkable *Ataccia cristata*, its grotesque flowers being the source of no end of wonder. Of course these cursory notes do not exhaust all that is interesting in this department; but we feel that we are encroaching upon the space at our disposal, and a visit to Lowfields without a notice of the Auriculas would in no degree be doing justice to Mr. Horner as the *doyen* of northern florists, or his well-earned honourable achievements as grower, exhibitor, and raiser.—AZOTA.

(To be concluded.)

NOTES ON MELONS.

DRYING THE PLANTS FOR RIPENING.

MY remarks anent the reduction of moisture in the atmosphere and at the roots of Melons when approaching the ripening period (page 294) appear to have been construed by "G. D." (page 445) into the "drying-off process," inverted commas being used as if quoting direct from my article.

It is quite right for "G. D." or anyone else to criticise or to question the soundness of any assertions, when such are fully and unmistakably made. In this case, however, anyone who reads the article will admit that the "drying-off process" was not advocated on the extreme lines assumed by "G. D."

I recommended the cessation of syringing when the fruit commenced ripening, remarking that less water would be required by the roots, but the foliage should never flag. That is opposed to the "drying-off process," because it is evident that when the leaves do not show any indications of suffering there is adequate moisture in the soil.

Some soils retain moisture longer than others; then again, the nature of the rooting medium may have been such that a large amount

of reserve material has been stored in the plant, upon which the fruit draws in maturing and ripening. This largely accounts for successful results under what is termed the "drying process;" but there can be no doubt that the safest course is to maintain healthy leaf activity, which cannot be done if the roots are neglected.—E. D. S.

SALIENT POINTS.

MELONS are now making progress in pits and frames in gardens innumerable, and for obtaining satisfactory results the plants must have the best possible attention throughout their career. Young plants should have the shoots thinned to four under each light, two being taken to the front and two to the back. Keep the laterals rubbed off to quite 6 inches from the stem, and pinch the main shoots 12 to 15 inches from the sides of the frames or pits. The laterals will show fruit at the first or second joint. When the flowers are fully expanded fertilise them about noon on a fine day, leaving a little air on constantly to prevent the condensation of moisture on the blossoms, a moist close atmosphere being fatal to a good set.

Pinch out the points of the shoots one joint above the fruit, and after three or four fruits are set and swelling remove all others. Keep the subsequent growths closely pinched, and thin them if likely to crowd the principal foliage. Afford weak liquid manure, but keep it from the foliage, and sprinkle the plants in the afternoon of fine days, closing about 3.30 P.M. to 4 P.M., or so early as to raise the temperature to 90° or 95°, and ventilate early in the day, or from 7.30 A.M. to 8 A.M., maintaining a day temperature of 80° to 85°, and reduce the ventilation gradually.

Keep a sharp look out for aphides, and if needed fumigate on two or three consecutive evenings moderately, an overdose doing great injury. Shade the following days if the weather be bright, and always have the foliage dry when fumigating. If canker appears rub quicklime into the affected parts until they are dry, and repeat as occasion requires, being careful to water away from the collar. Red spider will not appear if the plants are kept properly supplied with water and nourishment at the roots, and the atmosphere in a moist genial condition.

When a sufficient number of fruits of equal size are set upon a plant remove all the others and all flowers. Four to six fruits are as many as an ordinary healthy plant can bring to maturity in a frame. Over-cropping is fatal to size and quality, and very often the fruit does not reach maturity, but ripens prematurely. Plants swelling their fruits should have liberal supplies of water or liquid manure, and additions made to the ridges or hillocks of fresh warm soil as the roots protrude.

Though the water supply may be slightly reduced when Melons show signs of changing, it is all the same essential to keep the leaves absolutely clean, fresh, and healthy throughout the ripening process, for the satisfactory development of the fruit, and securing the highest possible flavour that is attainable by the variety grown. These few salient points in Melon culture may be useful to young practitioners by—AN OLD GROWER.

HARDY PLANTS IN POTS.

I HAVE frequently drawn attention in the pages of the *Journal of Horticulture* to the advantages of potting hardy plants for decorative purposes. These may often be prepared for special events more quickly than greenhouse plants, and when they have done good service be consigned to the rubbish heap, or planted in the reserve garden, where they give but little trouble for at least nine months in the year. The occasional introduction of this class of plants into house decoration provides a display quite novel and effective in appearance, and is therefore welcomed; for novelty as well as beauty we must have in these days, even at the risk of using what some term "common flowers."

It is not the intrinsic value of flowers that the high-class decorator studies, but rather their suitability for producing beautiful and striking effects. During April few plants are so showy and striking as good potfuls of *Doronicum plantagineum excelsum*; clumps of these if potted in December or January, and placed in a cool vinery or greenhouse, will commence flowering in February, and continue till flowers are produced from plants growing in the open air, which is usually about the middle of April. The bright golden flowers borne on long stems are exceedingly effective when arranged in glasses. Indeed they are a type of flowers always in demand among florists and decorators. As soon as plants growing in the open air begin to flower, those grown in pots should be divided and planted out; they will then give a second crop of flowers during the summer months, and if required the plants be in good condition for potting again in December, although it is preferable to lift on alternate years.

CANTERBURY BELLS.

These old favourite biennials are extremely showy and well adapted for pot culture. I sow the seeds in April, prick out the young plants when large enough and again transplant, placing the plants 9 inches apart, which distance allows them to develop into a very sturdy habit of growth. Sometimes during March these plants are lifted and placed in 7 or 8-inch pots, using a fairly rich compost and ramming it firmly. They are then grown in cool pits till they become too tall for such positions and are therefore removed to a greenhouse.

If kept close by the glass and well supplied with liquid or chemical manure, they flower grandly during May; in fact, few flowers are more attractive when placed singly in vases standing on pedestals or in other elevated positions, and yet how little labour their culture entails. The modern rose-coloured variety, *Campanula media calycanthema roses*,

should be grown in quantity; blue, purple, mauve, and white coloured flowers may be obtained from a packet of mixed seeds, or packets in separate colours can be purchased.

CAMPANULA PYRAMIDALIS.

These hardy perennials have long been regarded as stately objects for pot culture, and all who have seen them in good condition will, I think, agree that they thoroughly deserve the high encomiums passed on them. Writers on their culture usually recommend the plants to be grown in pots throughout, but I find they succeed admirably if sown in July, the plants left in the open ground throughout the winter, and potted in March or April. Much labour is saved by following this plan, and valuable space under glass during the winter months.

DOUBLE PYRETHRUMS.

No cultivated plants are more easily grown than are the numerous varieties of Pyrethrums, and none give a greater return in the shape of showy and useful cut flowers. For these reasons a large number should be grown in the reserve garden if cut flowers are in demand, or where plants of this type are found useful in pots.

Clumps lifted in April and grown in cool pits, vineries, or any cool glass structure will be in full beauty from the middle to the end of May. They scarcely seem to feel any check from lifting, if that operation is not deferred beyond the time when their flower buds are just visible; and I have lifted large clumps just as the flowers were beginning to open with satisfactory results, but in such cases, of course, frequent syringings, and shading for a few days, are absolutely necessary.

Marked improvement is yearly effected in these free-flowering perennials. I would, therefore, advise those forming a collection to leave the selection to the florist or nurseryman they purchase from, for in that way they may rely on getting good value for their money. But for the benefit of those who require a few inexpensive varieties I will enumerate some of the older ones:—album plenum, Mont Blanc, and Cry Chang are exceedingly good whites; Dora, light pink, tipped white; Captain Nares, bright crimson; Herman Steiger, rose; Madame Munsier, rosy blush; Niobe, flesh coloured; Marquis of Salisbury, cherry rose; Shotover, pink; Mons. Barral, deep red; and Princess of Teck, crimson and orange.—D. W.

FRUIT GROWING IN NEW SOUTH WALES.

IN view of the possibility of the British and other markets becoming largely supplied, in the near future, with fruit from Australia, the fruit-growing capabilities of New South Wales form a subject of some interest. According to Mr. Benson of the Department of Agriculture in that colony, in "the mother colony of the Australias," few parts of the world possess greater natural facilities for the production of fruit in greater variety than the colony of New South Wales. Owing to the extent of country and the great differences of climate the colonists are enabled to grow every kind of fruit, from Mangoes to Gooseberries, or, leaving out a few tropical fruits, all the cultivated fruits of the world, and many of such quality and to such perfection that they cannot be excelled elsewhere.

On the north-eastern seaboard, with its semi-tropical climate, the Mango, Custard Apple, Banana, and Pine Apple grow side by side, and the Passion Fruit and Guava grow wild, producing an abundance of fruit without any cultivation whatever. The Orange, Lemon, and Citron grow with very little attention, and it is not an uncommon thing to find the two latter growing in the scrub from chance seedlings, producing fruit in abundance, and holding their own against the indigenous vegetation.

The central seaboard district embraces a large tract of country, where the Orange and other Citrus fruits still flourish, but the place of the tropical fruits of the north-eastern seaboard is taken by the Peach, Nectarine, Apricot, Oriental Plum, Pear, early varieties of Apples, and several varieties of Plums, as well as table Grapes. This district is essentially the home of the Peach, as it grows wild wherever the stones are deposited along the banks of creeks, and on the shores of the Hawkesbury may be seen numbers of large Peach trees, bearing heavy crops of fine fruit, that have never been planted, cultivated, or pruned, and that have been grown from chance Peach stones that have been carried down and left by floods. When cultivated the Peach is very prolific; in fact, it is much given to overhearing, as are also Plums and Apricots, with the result that the quality of the fruit grown often suffers from the number that the tree has to bear. Where, however, the trees are properly attended to, and only allowed to bear as much fruit as they can bring to perfection, the quality of the fruit is good; grown with an ease that is probably unsurpassed in any other part of the world.

Here the Pear, when once established, is as hardy as a native tree, and large numbers of old Pear trees can be seen in the neighbourhood of Sydney, growing without the slightest attention, and bearing heavy crops of fruit. These old neglected Pear trees are often of large size, and usually mark the site of old orchards, from which all other varieties of fruit trees have long since disappeared, the Pears alone remaining and defying neglect. In the table-land districts of the colony there are large tracts of country widely separated from each other, but which have a climate and rainfall admirably suited to the production of the fruits of the temperate regions, including Apples, Pears, Plums, Quinces, Cherries, and all kinds of berry fruits and hardy nuts. In these districts the winter is more or less severe, snow being not uncommon, and frosts of frequent occurrence. The summers are generally bright and warm

during the days, but always cool at night, so that though there is sufficient sun heat to put plenty of sugar in the fruit, the fruit does not ripen as rapidly as in warmer or more humid districts, and the fruits grown possess much greater firmness, and are much better suited for keeping or export.

Apples, Pears, Plums, and Cherries, when planted in suitable soils and properly looked after, are usually heavy bearers in these districts, and the fruits of firmer texture, higher colour, better flavour, and better keeping qualities than the same fruits when grown in other parts of the colony. Cherries do remarkably well in many parts, the red Kentish Cherry growing almost wild and without the slightest cultivation, and yet bearing heavy crops of fruit; in fact this variety is such a hardy grower that it is planted in hedges to form a breakwind or protection for the orchard against the prevailing winds of the district. In the central districts there are a soil and climate well adapted to the growth of the Vine, the Olive, the Fig, the Apricot, the Prune, and drying Peaches—in fact for nearly all varieties of drying fruits. The dry western country also grows good fruit, but here its successful culture depends largely on having water available for irrigation when necessary. With irrigation on suitable land Apricots, Peaches, Almonds, Figs, Grapes, Olives, Oranges, and Lemons can be grown to great perfection, the varieties of deciduous fruits that dry well being the most suitable.—JOHN PLUMMER, Sydney.

THE R.H.S. EXAMINATION, 1896.

THIS is over once again, and now we are anxiously awaiting the result. I should like to make one or two remarks on the test paper, and also take the liberty to criticise one or two of the questions.

Many of the candidates, myself among the number, hoped we should be allowed three hours this year instead of two and a half. I had the pleasure of sitting for "Agriculture" on May 5th. We were allowed three hours to answer seven questions, or an average of a little over twenty-five minutes for each. In the R.H.S. the time for each is less than nineteen minutes. Is that giving candidates a good chance? I think not.

Taking the test paper on the whole there is not much to complain of in the questions, but those I wish to criticise are Nos. 4 and 6 in Div. B. No. 4 asks for the origin of the Cherry and Apricot, soil and manure most suitable for each, diseases and remedies. No. 6, What is the origin of the Carnation and garden Pink? Give cultural details.

What I want to know is, What has the origin of the Cherry and Apricot, the Carnation and Pink, to do with "horticultural practice?" I venture to assert that of every hundred gardeners who could give details of cultivation, not ten would be able to give the origin of the above mentioned plants. Besides, of what "practical" use is it to them? If the examiners wish to put such questions they should give them in Division A.—A CANDIDATE.

YOUNG GARDENERS.

THEIR HOURS AND HABITATIONS.

I AM sorry that I did not make my meaning quite so plain as perhaps I might have done, and by not doing so I have roused the ire of a "Wiltshire Gardener" (page 476). When I stated that young gardeners should have holidays given to them instead of asking for them as well as the evenings to themselves, I did not mean it to be understood that it was to be all holidays and no work during the evening.

It is a well-known fact that in all gardens there is a certain amount of work at different seasons of the year, and especially in the spring, that must be done by a certain time. They would be poor men if they did not turn out without grumbling to do what was absolutely necessary; and if the head gardener, when he is not allowed to pay for overtime, were to offer the men an occasional holiday, whether half-day or a week, when the rush of work was done, the men would appreciate it more, and turn out more willingly to do anything that might be required of them, knowing that they would not be forgotten when the busy time was past. If the men are paid for overtime, and the chief is kind enough to give them a holiday, so much the better for the men.

A "Wiltshire Gardener's" men cease work at 6 P.M. and 1.30 Saturday for a good part of the summer. They are rather fortunate I should think. Where I am engaged we work nine hours per week overtime on an average for four months in the summer, and leave off at 4 P.M. Saturdays, so that there is not much time for anything but work, no pay being allowed for it.

Regarding a "Wiltshire Gardener's" query, whether young men would be more comfortable or better off in the end if they had a good bothy, with the necessary domestic arrangements, I say Yes, they would. I have had several years' experience of both life. Some were comfortable, and some were not; and I have found that when the bothy was comfortable, the men, as a rule, spent their evenings in it, and especially in the winter time; but where they were not comfortable it was very seldom they did so unless on duty, and I should think it would be better for them to be in the bothy than elsewhere.

Many thanks from young gardeners are due to Mr. Bardney for explaining his excellent principles of working, and for championing the cause for young men. I should like to ask a "Wiltshire Gardener," in conclusion, who is to look after the comforts of young men if head gardeners are not going to do so.—ANOTHER SUBORDINATE.

ELK'S-HORN OR STAG'S-HORN FERNS.

THE species of the genus *Platycerium* (from *platys*, broad; and *keras*, a horn) are at once the grandest, most beautiful, and most extraordinary representatives of the order of Filices or Ferns. The genus comprises about half a dozen species, all epiphytal in habit, and for this reason are seen to the best advantage on a section of an old Tree Fern, large block of wood, or in a basket. They also thrive in shallow pans and pots; but in either case the potting material must be of an open, easily drained character, such as rough fibrous peat, or peat and sphagnum.

The first species in cultivation, and the most widely known and easiest of culture, is the common Elk's-horn Fern, *P. alcicorne*, which was introduced from Australia in 1808. It is the hardiest of the genus, and can be readily grown in a greenhouse with a night temperature of 50°, or even lower during the winter months. When grown in a pot or perforated pan in a mixture of peat, sphagnum, and crocks in about equal parts, and when thoroughly established, the pot or pan being inverted and suspended by means of wire to the roof of a greenhouse or conservatory under conditions favourable to Fern growth, it soon forms a quaint and charming object, the barren fronds completely hiding the pot or pan, while the fertile fronds spring therefrom in elegant, graceful, stately, Stag's-horn-like form.

In common with the other species, the fronds of *P. alcicorne* are of two kinds, the barren ones more or less rounded and shield-like, convex, downy when young, the edge sinuated, and the lobes spreading; fertile fronds erect, 2 to 3 feet long, clustered, two or three times dichotomous, the ends of the lobes drooping over in a very graceful manner. The fruit is borne in the last forks and at their base in very irregular patches; under surface of the fronds covered with thin cottony down.

Plants are readily obtained from spores and also by suckers from the roots, the young plants so produced being readily separated from the parent plant after they have made one or two fronds.

If spores are had recourse to for increase they should be sown as soon as they are gathered, using a compost formed of peat, broken crocks, or bricks and sand, in equal parts, over thorough drainage, and the pot or pan being well watered before sowing the spores on it, then covering with a bell-glass, keeping close and moist until they show signs of germination, after which the sporelings need the glass tilting and careful watching in order to prevent their damping off. Little progress in growth is made until fertilisation has been completed. Sometimes the spores do not germinate or produce a green liverwort-like appearance (prothallus) on the surface for six months or more after sowing; constant and uniform moisture is essential without wetting the prothallus.

The large form of *P. alcicorne*, known as *P. a. majus*, comes from Polynesia; it is of more erect and stronger growth than the type, and very attractive in appearance. The fronds are dark green in colour, thick and leathery in texture, and in consequence the plants endure a drier atmosphere than other species, this variety and the type being the least affected by exposure in the exhibition hall, tent, corridor or staircase. Indeed, both are admirable for decorative purposes, and the wonder is that they are so seldom seen in greenhouses and conservatories.

The African Stag's-horn Fern, *P. æthiopicum*, syn. *P. stemmaria*, was introduced in 1822 from the Guinea Coast and Angola,

and requires a stove temperature. It somewhat resembles the common Elk's-horn Fern, but is bolder and broader in the fronds, being strong in growth, and remarkably handsome. This species is very impatient of water on the fronds, especially in the winter, when, if the moisture remains on them, they soon become discoloured.

The Queensland Elk's-horn Fern, *P. Hilli* (fig. 82), is closely allied to the Elk's-horn Fern, *P. alcicorne*, but is little more than half the height or length in the fronds, these being about 1½ foot long, branched, and the part just below the branching about 8 inches broad, gradually tapering into short stipes. The mature fronds



FIG. 82—PLATYCERIUM HILLI.

are very thinly covered with white stellate hairs, and the sori are formed in small roundish spots at the base of the lobes. It was introduced in 1878, and does fairly well under the same conditions as *P. alcicorne*, but is best grown in more warmth.

P. Willincki was introduced from Java in 1875, and requires a stove temperature. The barren fronds are lobed, rounded at the base, and erect; but these soon turn brown and dry after they are developed, fertile fronds drooping, produced in threes, several times forked and greyish white in colour. These fronds will endure a year or more, and attain a length of about 3 feet.

P. Wallichii is a native of the Malay Peninsula, and was introduced into this country in 1860. The barren fronds are deeply lobed, with inflexed, forked divisions, fertile fronds in pairs, drooping, each in two divisions, and from either side of the sorus, which occupies the rounded upper edge of the cuneate disk of the divisions, a one-forked division is produced, the under side of the fronds being covered with a yellowish pubescence.

The North Australia Elk's-horn, *P. grande*, introduced in 1828,

does well in a cool stove, and is a notable plant. Barren fronds very large, rounded at the base, convex, or the upper ones erect, deeply lacinated with spreading or inflexed lobes, fertile fronds in pairs, thrown out at right angles from the sterile fronds, and 3 to 6 feet in length, pendent in the deeply divided long segments. This very handsome species seldom, if ever, produces any young plants from the roots; hence it is increased from spores, which in the prothallus stage are very prone to damp off, and still more so in the potting-off stage of the young plants, great caution being necessary in supplying water to the sporelings.

The plant succeeds admirably on a block of wood hung or affixed to the wall of a fernery, the wood being kept evenly moist, this being sufficient in most cases in the winter, overmuch water then being very prejudicial; indeed, the plants seem to do all the better for a long rest, and are impatient of the syringing and watering of the blocks, so frequently indulged in with epiphytal plants, as if they were aquatics. Abundant air moisture, without directly applying it over the plants, is what the Stag's-horn Ferns delight in during the growing season, and when the fronds are formed under such conditions the plants may be used for conservatory and other decorative purposes, their fine forms contrasting well with the more finely cut fronded species of Ferns and other foliage plants.

The East Indian Elk's-horn Fern, *P. biforme*, introduced in 1842, is seldom seen, but it is a very remarkable and stately Fern. Barren fronds very thick at the base, imbricated, with the edge sinuate lobed and fertile fronds repeatedly dichotomous from a subcuneate disk, altogether 6 to 18 feet in length in large plants, very imposing. It requires a stove temperature, abundance of heat and moisture during the growing season, and after that almost as great modification of the heat and moisture as a *Dendrobium*, nothing ruining epiphytes sooner or more than striving to keep them constantly in growth by the stew-pan and constantly-dripping-with moisture system of culture.—G. ABBEY.

SUN-BURNING.

THIS term is seldom used in this country, for the simple reason that, as it applies to the stems of trees, the affection is but little known in Britain in comparison with its prevalence in the vineyards and orchards of Central Europe and the United States.

The form of trees, as well as the selection of species or varieties, for given locations should be made with a knowledge of special conditions governing the distribution of temperatures and other natural agencies. In this country, especially the northern parts, standard forms take precedence in ornamental and fruit-bearing trees, also in the Dominion of Canada, northern parts of the United States, and northern countries of Europe, for experience has proved that the farther the blossom and incipient fruit of the tree is from the earth the less danger of injury or loss of crop from spring frosts, while there is practically nothing to dread on account of sun-burning. On the other hand, a knowledge of special conditions has given the low-headed tree precedence in hotter, and in consequence more liable to sun-burn, interior locations. Nevertheless the standard everywhere is the prevailing form, the high being most and the low least liable to suffer from stem sun-burning.

Although Britain is always under sea influences, it has its coast, valley, foot-hill, and mountain climates, and may be briefly alluded to for purposes of culture and as bearing on the subject in hand.

COAST.—The chief characteristics of the coast climate are equable temperature, increasing southwards; summer cool and winter warm as compared with the interior; a somewhat humid atmosphere, and though subject to frequent fogs, the sea coast receives more sunshine than the inland parts of the country. This is natural, as the sea coasts are low, as a rule, and clouds form inland where the ground rises to hills. The south and west coasts are particularly favoured in almost all months of the year, and especially so the Channel Islands. The east coast of Great Britain, as represented by Aberdeen, Gledston, and Hillington, is comparatively sunny. In the summer and early autumn the north-west of Ireland and of Scotland, with the Orkneys, receive very little sunshine, but in the late autumn Ireland generally receives more sunshine than do most parts of England. In the spring and early summer the winds are generally easterly, but during the summer and autumn westerly winds prevail; while in winter the northerly and easterly winds are about equal with those from the west.

The extension of coast influences is governed by local topography. Valleys open to coast winds are cooler and moister than those sheltered by intervening ranges. On the other hand, situations sheltered from the north and east favour the growth of trees, even though quite near the coast. Sometimes a wind screen, than which for standing sea breezes nothing surpasses the common Elder, so modifies coast influences that fruit trees do exceedingly well, especially Apples and Pears, also Figs where the climate is suitable. The scab blight of the Apple and leaf blister of the Peach are common in coast valleys, on the hills abutting, as well as low-lying parts of the ravines. Lichen and moss gather quickly directly under coast influences, but alkaline washes in winter cleanse the bark from parasitic as well as epiphytal vegetable growth. Although the trees on coasts are not subject to sunburn, low-headed withstand winds much better than standards, but plenty of room must

be given them, so that sunshine may have free access to warm the ground all round the tree.

INTERIOR VALLEY.—The characteristics of this are higher summer and lower winter temperatures than on the coast; winds occasionally strong, hot in summer and cold in winter, subject to mists in autumn, severe frosts in winter, moisture and damage from frosts in spring, and dews in summer somewhat compensating for parching heat. Valley, however, is a broad term, and includes everything from the coast to elevations on the slopes of mountains. Some valleys, protected from cold northerly and easterly winds, withal sheltered from the strong moisture-laden or fog-bearing westerly winds, and open to spring sunshine and summer sun, have a forcing climate which produces the earliest maturing fruit or crops of the season—earlier not only than the coast, but also somewhat earlier than adjacent locations in the broad open valley. Slight elevations frequently secure freedom from spring frosts, while elevations above sea level, on the rims of valleys facing south, comprises the thermal belts, in which semi-tropical crops or very early ones are produced.

Apples and Pears attain great perfection on such elevated and warm situations, but the trees suffer from hot winds in summer and sun-burn, and it is much the same in the great plains or valleys of Central Europe, Central and Western United States, the great heat and dry air seriously affecting both fruit and foliage, and this is seen in modified degrees in the interior of this country, where "borers" are most found in stems that are exposed to the direct rays of the sun.

FOOT-HILL LOCATIONS.—This is a mere modification of the valley, which implies greatest heat, for every 100 feet of elevation means half a degree less temperature, and about 1 inch more rainfall. The slopes of the Medway valley are typical of foot-hill climate, where there is advantage of early spring heat and freedom from the frosts that nip the harvest of the valley grower in the bud, for it is usually in the valley bottoms, moist lands, and wet swales that late spring frosts commit most havoc. Colour of soil may have something to do with this, also sun-burn in summer and frost-bite in winter. Growth on black and dark-coloured soils, even when well drained and warm, is liable to suffer from frost, while that on red lands and that of chalky ashens hue escape. This is due to the sun warming the soil more on the darker than lighter surface, hence the spring growth is forwarder and suffers more than adjoining land of a different description. Besides, cold air settles in low places, flowing down hill-sides to the bottom of valleys, while the warm air rises and bathes the adjacent foot-hill locations, consequently there is frost in the hollow and freedom from it on the hill-side. More, the constant motion of the air on the slopes is also, to a certain extent, a preventive of frost.

MOUNTAIN.—About 500 feet above the coast line, even with protection from north, east, and westerly winds, conditions gradually intrude which become untrustworthy as great elevation is attained, hence the trees for such location have to be chosen with circumspection. Nevertheless, the hardier Apples and Plums thrive on broad hills, Gooseberries and other bush fruits being produced nowhere else so abundantly, and of a choice quality. April and May frosts may work ruin in the valley orchards and fruit plantations, but the blossoms and incipient fruits of trees in their natural positions are seldom cut off by even late frosts. Follow Nature in the choice of sites for every species of plants, then little hazard attends the culture of the hardier even in elevated situations, while the beauty, quality, and keeping properties of the mountain fruits are proverbial.

Sun-burning is not known in the mountain, but it is found in trees which are taken from the original position of the species on the broad tops or sides of ridges, and placed on open plains, at the bottoms of pent up valleys, or narrow ravines. Sun-burning is not known in Nature, for the seedling is always provided with leaves, and as growth advances the stem is so protected by the foliage above that stem sun-burning cannot possibly occur, hence the affection is an outcome of cultivation, which will be referred to on a future occasion.—G.

HORTICULTURAL SHOWS.

MANCHESTER.—MAY 21ST TO 27TH.

THIS annual show was opened on Thursday last by the Right Hon. the Earl of Derby, G.C.B., who was accompanied on his tour of inspection by Mr. Bruce Findlay. The latter gentleman, we are sorry to say, is at the present time in very feeble health, but it is sincerely to be hoped that with the summer weather before him he may be able to regain his strength, and be the same useful head of the garden which at the present time looks so beautiful.

At the opening ceremony Lord Derby was introduced by the Dean of Manchester (Dr. Maclure). His Lordship said that it was mainly owing to Mr. Bruce Findlay that the exhibitions had for many years achieved such a success. The exhibition appeared to be a very beautiful one, and he trusted that it would be supported by the public, who could see for themselves, and inspire others with that belief in horticulture and in the skill of the present day, which did so much to make these exhibitions and others attractive.

Comparing the present show with former ones there was a falling off in exhibits, which was easily accounted for by the fact that many who staged were also represented at the great Temple show, and for the benefit of all concerned it would be well if this could be avoided on a future occasion. It is not difficult to see in what direction the tastes of the Manchester horticulturists are bent, and they deserve the highest possible commendation for the fine display of Orchids which are from

time to time brought together, the one under notice being well up to the average. The trade, too, gave loyal assistance, all combining to make up a most attractive display and worthy of every support.

The Orchids were without doubt the great feature of the show, and although competition was not strong in some classes the quality was of the choicest description, and no better object lesson could be taught those who decry to a certain extent their culture, for here one could see variety, form, and charming colour at every turn, such as cannot possibly be found in any other class of plants. For the best miscellaneous collection in bloom E. Ashworth, Esq., Wilmslow, was accorded premier honours for a bank tastefully arranged and comprising the choicest varieties. The second prize went to Mr. Stafford, gardener to F. Hardy, Esq., Ashton-on-Mersey, his *Odontoglossum crispum* figuring largely, but the whole group was somewhat marred by the use of green paper as a covering for many of the pots. In the corresponding class, open to nurserymen, Mr. James Cypher, Cheltenham, staged plants of more than ordinary merit, and well set up. Mr. John Robson, Bowdon, was a moderate second, and Messrs. Heath & Son, Cheltenham, third. Mr. R. Johnson, gardener to Thos. Statter, Esq., Whitefield, was a good first in the class for *Lælias* and *Cattleyas*, staging such choice forms as *L. purpurata alba*, *Statteriana*, *rubescens*, and *Rex*, *Cattleyas* *Mendeli leucoglossa*, *M. giganteum*, and *M. Alexandræ*. Mr. Stafford was a close second, *Cattleyas* *Schöderi*, *Skinneri alba*, and *Lælia purpurata Schöderi* being excellent.

Mr. Ashworth had a most interesting collection of *Cypripediums* in bloom, all in fair condition, *C. Chamberlainianum* *Calypso*, and the charming *bellatulum alba* being prominent. Mr. Johnson was placed second, and Mr. Stafford third. *Dendrobiums* were only moderately represented, Mr. Cypher winning. *Odontoglossums* are always good at Manchester, the quality this year being quite up to the standard, and many beautiful forms were noticed in the admirable first prize collection staged by Mr. Stafford. Messrs. Heath & Son won with ten specimen Orchids, conspicuous amongst them being *Cattleya Skinneri*, *Oncidium sphacelatum*, and *Odontoglossum citrosum*, a charming variety which was granted a certificate.

The stove and greenhouse plants were a distinct advance on the two previous years. Mr. Cypher won first honours with ten magnificent specimens, amongst which *Erica Cavendishi*, *Pimelea Hendersoni*, *Aphelexis macrantha purpurea*, and *Anthurium Scherzerianum* *Wardi* were the best. Mr. Wilkes, gardener to Miss Lord, Ashton-on-Mersey, won with ten fine-foliaged and six stove and greenhouse plants in bloom. The prize for table plants was taken by Mr. Morgan, gardener to Mrs. Fielden, Dobroyd Castle, Todmorden, with well grown and highly coloured specimens. *Azaleas* were fairly shown, Mr. Cypher and Mr. Wilkes being first and second for six. *Cinerarias* and *Calceolarias* were fresh and bright, Mr. Wilkes winning in both classes. Mr. Plant, gardener to R. P. Gill, Esq., Ashton-on-Mersey, won with ten exotic Ferns. The same exhibitor was also to the front with a charming collection of hardy, herbaceous, and alpine plants, every one being perfectly grown. Two groups arranged for effect were staged by amateurs, and Mr. Wilkes, who has been seen to such splendid advantage at former exhibitions, was again to the fore with a group that would well-nigh defy criticism. The second, also a most pleasing group, was put up by Mr. Pattinson, gardener to Mrs. Blair, Whalley Range. Messrs. R. P. Ker & Sons, Aigburth Nursery, Liverpool, were represented by a large group of plants arranged for effect, grand and bold in the extreme. Their splendid *Crotons*, seedling *Clivias*, and Aigburth *Crimson Gloxinia* were worked in with excellent effect, and the prize was justly won.

Now we come to the trade exhibits which went largely to make up the show, the group of Orchids which Messrs. Sander & Co. staged being remarkable alike for quantity and quality, as there was not an inferior plant to be seen. The most noticeable were *Lælia purpurata* *Distinction* (certificate), *Epidendrum Randi*, *Cattleya Mendeli* *Countess of Derby*, *Lælia purpurata albo-violacea*, *Cattleya Her Majesty*, *Stenoglottis longifolia*, and several handsome new *Begonias*, all receiving certificates. Messrs. Charlesworth & Co., Bradford, had a splendid exhibit, the superior forms of *Odontoglossum crispum* being strongly in evidence, and many other good things too numerous to mention. Certificates were granted to *Odontoglossum Alexandræ* *Charlesworthi*, the finest type in the show, *Odontoglossum crispum* *Warburtonianum*, a superior and distinct form, and the beautiful *Cypripedium Cowleyanum* var. *Annie Louise*. Messrs. Jno. Cowan & Co., Garston, had an extensive stand of high merit, the forms of *Cattleya Mossiæ* being greatly admired. Messrs. B. S. Williams, Upper Holloway, London, had an imposing group of miscellaneous plants, also Orchids in variety, a great addition to the show.

The length of time in which the *Amaryllis* may be had in bloom was never better exemplified than by the gorgeous display set up by Messrs. Ker & Sons, Aigburth. They formed one of the chief attractions, and were greatly admired by the large attendance of visitors. Coming to the steps of the long promenade the imposing stand set up by Messrs. Sutton & Sons, Reading, claimed attention. *Calceolarias* and *Gloxinias* of the most diversified colours, splendid seedling *Petunias* and *Streptocarpus*, heavily laden pots of *Tomatoes* and *Epicure* and *Tender* and *True*, with *Beans* and other vegetables, all helped to complete a capital exhibit. Messrs. Chas. Turner & Sons, Slough, were well represented by a noble bank of plants, new *Pelargoniums*, well-flowered *Roses*, not forgetting the useful *Crimson Rambler*, and *Azaleas* were the interesting feature. Messrs. Cutbush & Son had an extensive miscellaneous collection of plants, including *Carnations* and *Liliums*. A special word of praise is due to the group of *Begonias* staged by Mr. T. S. Ware, as the exhibit was one of superb quality. Messrs. Dickson, Ltd., Chester, again

staged a most notable collection of herbaceous plants in their best style. The hardy seedling *Azaleas* staged by Messrs. Anthony Waterer & Son, Knap Hill, excited interest by their intense colour and profuse blooming properties; whilst Messrs. Jno. Waterer & Sons, Bagshot, again claimed particular attention by their special hybrids. Messrs. Jno. Cowan and Co., Ltd., had a splendid circular group of useful and interesting flowering plants well set up, and most attractive were the *Violas* and herbaceous flowers staged by the Misses Hopkins, Knutsford.

Nurserymen's Awards.—The highest award, a large gold medal, to Messrs. F. Sander & Co., St. Albans; Charlesworth & Co., Bradford, gold medal; and Jno. Cowan & Co., Garston, silver medal, all for Orchids. Gold medals to Messrs. R. P. Ker & Sons for *Amaryllis*; Mr. T. S. Ware, for *Begonias*; Charles Turner & Sons, Slough, for *Roses* and *Azaleas*; Sutton & Sons, Reading, for miscellaneous exhibits. Silver medals to Cutbush & Sons, East Barnet, for group; A. Waterer & Sons, Woking, for hardy *Azaleas*; and Jno. Cowan & Co., for miscellaneous collection of plants. Implements and horticultural specialities were also exhibited.

LUNCHEON.

At the luncheon Mr. A. Sutton, Reading, in replying to the toast of the exhibitors, lamented the fact of two such great exhibitions clashing, and hoped that Mr. Findlay would soon be restored to a better state of health. Mr. John Farrell said of late years the gardens had not had their share of support. He thought that the Corporation, which could spend money in the purchase of "old masters," should also have the power to help on an institution which could do much good for the people.

Lord Derby, in replying, said that the toast had been drunk for the past seventy years, with ever-increasing hope. He was not there to give them a record of past years; though there had been for a long time something to be desired with respect to the future. The gardens were beautifully laid out, but through various causes had not been properly supported. He hardly dared appeal to many of those who were not present—many of the great men of Manchester and the district—who, if they saw an object to be desired for the city—a new building, a work of art, anything calculated to glorify or beautify the city—would gladly give large sums to acquire it. Yet their names were conspicuously absent from the list of subscribers to the gardens. He hoped the appeal that day would be productive of some kindly gifts which would enable them to show how the beautiful in botanical science could be brought home to our doors in Lancashire. He could not help thinking that if efforts were made individually and collectively that good would result. To the proprietors of the Gardens there was no source of profit, as they were simply conducted for science and botany, and to show how the beautiful forms of Nature could be so trained to adapt and modify themselves to the will of man. He would humbly try his best, and get others also to give their support. Of late years there had been a revival of the allotment system, and he thought a society of that kind could help forward and bring back to the land those who desired small pieces, but had little time or money to devote to it. If they did that they were doing great good.

In conclusion, he spoke of the splendid services rendered by Mr. Findlay, and of their great sympathy for him, and a fervent hope that he might soon be restored to health. Mr. T. Statter compared the Temple show with theirs, and regretted much the clash. The position of the Society was not, on the whole, a bad one, but they wanted a push, and he hoped they would get it.

Mr. Findlay heartily welcomed Lord Derby on his first official visit as President, and hoped that when he came amongst them again the Society would have emerged from its present comparative difficulties.

OLYMPIA.—MAY 27TH, 28TH, AND 29TH.

ON Tuesday there was opened the third of the flower shows to be held at Olympia, and the progress was most marked. Not only were the exhibits very much larger in numbers, but the standard of quality was considerably higher. There were hardy and other plants, both flowering and foliage, in great diversity. The managers of the show, and especially Mr. G. Bick, are deserving of the highest commendation, not only for the beautiful display but also for the completeness of the arrangements. Owing to lack of space we are compelled to hold over the list of awards until our next issue.

Mr. T. S. Ware, Hale Farm Nurseries, Tottenham, staged a handsome group of hardy flowers. All the specimens were shown in large pans, and presented a very pleasing appearance. Amongst others were noticed *Centaurea montana*, *Ajuga reptans purpurea*, *Saxifragas* in variety, *Spiræas*, *Trolliuses*, *Armeria cephalotes rubra*, *Lilium croceum*, *L. Harrisii*, *Geum coccineum plenum*, *Heuchera sanguinea*, *Cypripedium spectabile*, *Solomon's Seal*, *Asphodels*, *Aster alpinus speciosus*, besides flowers of German *Iris*es in great variety, and others. Pink *Malmaisons* were also well shown by Mr. Ware.

The collection of *Gloxinias* from Messrs. J. Carter & Co., High Holborn, proved the excellence of the firm's invincible strain. The plants were in small pots, but carried deep green, healthy leaves and flowers of exceptional richness, diversity of colouration, and substance. Victoria Prize *Calceolaria* from the Holborn house made a really fine display, as also did their Emperor and Empress *Petunias*.

The plants utilised in the formation of a group by Messrs. W. Cutbush & Sons, Highgate, were capital specimens of good culture. The leafage provided by Palms, Ferns, *Dracenas*, and *Aralias* was admirably calculated to set off the beauty of the *Ericas*, *Crassulas*, *Boronias*,

Spiræas, Hydrangeas, Azaleas, and the Lillium Harrisii. The Ferns from Mr. W. Howe, gardener to H. Tate, Esq., Streatham, were magnificently grown, as also were the Crotons and Dracænas from the same source. The foliage in each case was clean and of good colour. Mr. G. Mount, Canterbury, staged some magnificent Roses in variety.

Ferns and Selaginellas from Mr. H. B. May, Upper Edmonton, were staged in extensive variety. From the Ichthemio Guano Co., Colchester, came plants such as Pelargoniums and Petunias, as grown with the aid of this well-known fertiliser. The exhibit from Mr. H. J. Jones, Hither Green, Lewisham, was very imposing. It occupied a considerable amount of space, and was arranged with excellent judgment and taste. There was a central group of Pelargoniums in pots (handsomely flowered plants), with a few tuberous-rooted Begonias of the first quality, and superb Petunias to afford variety. In addition to this there were at each end of the group collections of decorative, Zonal, and Ivy-leaved Pelargoniums in a cut state. With clearness and richness in colour each of the far too numerous varieties to mention here had size and substance of pip to a remarkable degree. Hardy flowers were capitally staged and shown by Messrs. J. Cheal & Sons, Crawley. Poppies, Irises, Rhododendrons, Thorns, double and single Pyrethrums, Lupins, and some charming Violas were the most conspicuous. The same firm also set out a well-planned miniature rockery.

Once again in this building Messrs. Barr & Son, King Street, Covent Garden, showed to advantage. They exhibited splendid German Irises, double Pyrethrums, richly coloured Pæonies, showy Papavers, with Gladioli, Lilliums, Lupins, Iceland Poppies, and several others. Messrs. Kelway & Son, Langport, staged a large collection of double and single Pæonies, Delphiniums, and a few others.

Of choice flowers, such as Odontoglossums, Clivias, Cattleyas, Begonias, Cyrtipediums, Phyllocactuses, Gloxinias, Statice profusa, Ericas, Spiræas, Malmaison Carnations, Lillium Harrisii amongst flowering plants, with Ferns, Palms, Caladiums, Crotons, Dracænas, and others conspicuous for their leafage, Messrs. J. Laing & Sons, Forest Hill, made a superb group. From every aspect it was light, graceful, and beautiful, while good culture was equally conspicuous. Quality was in evidence in the large exhibit of hardy flowers from this firm. There were great masses of Pyrethrums, Ixias, Papavers, Lupins, Pæonies, Irises, and others. A few other choice plants also came from Forest Hill, as did an interesting group of Conifers. Messrs. R. Smith and Sons, Worcester, sent trained Clematises in their usual splendid style; while Mr. C. Turner, Slough, was conspicuous by reason of his Azaleas and Crimson Rambler Roses.

Orchids from Messrs. H. Low & Co., Clapton, were excellent, and a welcome change from the other exhibits. Quantity was combined with quality. The collection of Cannas from the same source was strikingly effective. Mr. P. McArthur, Maida Vale, sent Orchids arranged with Ferns and Palms. Mr. W. Cragg, gardener to W. C. Walker, Esq., Winchmore Hill, arranged a small but charming group of Orchids.

Foliage plants and Orchids from Messrs. B. S. Williams & Son, Upper Holloway, made a fairly effective exhibit, somewhat marred by the immense Palm with which it was overshadowed. Mr. C. Turner formed a circular group of show and decorative Pelargoniums. Mr. Anthony Waterer, Woking, sent splendidly flowered plants of hardy Azaleas, and also three boxes of trusses of Rhododendrons. Mr. W. Meads, Farringdon, showed a collection of Melons.

WAKEFIELD AMATEUR TULIP SHOW.

THE above sixty-first show of the Wakefield Amateur Tulip Society was held at the Brunswick Hotel on Monday and Tuesday last. The two months, April and May, covering the most important period of development of bud and flower have this year been marked by their usual climatic vicissitudes, with their consequent influences on the properties of a plant so erratic in conforming to the florist's ideal, as the Tulip had previous to the show left a wide margin of uncertainty for speculation as to the position the different growers were likely to occupy in the prize list. The beginning of May was characterised by hot forcing weather, anything but congenial to a flower so easily influenced by even moderate sunshine as the Tulip. The heat and drought this year forced on the blooms at an exceedingly rapid rate, which marked the date of the show as being at least one week too late in the season. Unfortunately, just when the blooms had reached the zenith of their beauty and development, the locality coming within the sphere of the last week's storm of wind, which made wreck of shade and shelter, thus exposing the blooms to rainstorms, following in the wake of the gale, thus making havoc of many of the best flowers. The show, notwithstanding, was exceedingly good, one quite equal to the average of past years, and the competition in the classes was close and keen.

Mr. Wm. Mellor secured first honours for six rectified blooms with Talisman, flamed bybloemen; Mrs. Mellor, feathered bybloemen; Paxton, flamed bizarre; Lord F. Cavendish, feathered bizarre; Lizzie Heath, rose; Annie Macgregor, flamed rose. Mr. Alfred Moorhouse was second with Paxton, feathered; Paxton, flamed bizarre; Conisbro' Castle, fine feathered bybloemen; Queen of the May, flamed bybloemen; Mary Jackson, feathered rose; Madame S. Arnaud, flamed rose; Mr. Ed. Lister was third. The prizes ran nine deep.

For six breeders Mr. Moorhouse was first with Paxton, Dr. Dalton, Rose Hale, Mrs. Barlow, Hepworth, and one unknown. Mr. Wm. Calvert was second with Paxton, Willison's King, Hepworth's Annie Macgregor, Mrs. Barlow. Mr. H. Gill third. Mr. W. Calvert secured first place for three breeders with Mrs. Barlow, Hepworth, and Paxton. Mr. H. Gill

was second with Paxton, Geo. Hardwick, Miss B. Coutts. The third prize went to Mr. E. Lister.

For feathered bizarres, first and third prize Mr. Lister with Paxton. Second prize, Mr. Calvert with Paxton. Feathered bybloemen.—First and second, Mr. Moorhouse with Bessie and Mrs. Hepworth. Third prize, Mr. Mellor. Flamed bybloemen.—First, Mr. Brown with Talisman. Second, Mr. Moorhouse with Talisman. Third, Mr. Calvert with Queen of the May. Feathered Roses.—First and third, Mr. Mellor with Mrs. Atkins and Aglaia. Second, Mr. Moorhouse with Annie McGregor. Flamed roses.—First and second, Mr. Mellor with Mabel. Third, Mr. Calvert with Mabel.

Bizarre breeders.—First, Mr. J. Hardwick with Sulphur. Second, Mr. Mellor with Lord F. Cavendish. Third, Mr. Moorhouse with John Brook. Bybloemen breeders.—First, Mr. Hardwick with Hepworth. Second and third, Mr. Geo. Gill with Geo. Hardwick. Rose breeders.—First and second, Mr. Geo. Gill with Apollo and Mrs. Longbottom. Third, Mr. H. Gill. Premier flamed.—Mr. Calvert with Paxton. Premier feathered.—Mr. Geo. Freeman with Paxton, a remarkably fine flower, causing much comment. Premier breeder.—Mr. W. Calvert with Paxton.



FRUIT FORCING.

Peaches and Nectarines.—Early Forced Houses.—The fruit of the very early varieties is gathered where the trees were started in late December or at the new year. The wood on which the fruit has been borne should be cut out, and if all superfluous growths are removed light and air will be admitted to the shoots which are to produce fruit next year. Thoroughly cleanse the trees by washing them forcibly with water from the syringe or engine, and if they have become infested with red spider or thrips add 2 ozs. of softsoap to each gallon of water. Scale also often appears on forced trees, weakening the growths by extracting their juices, and impairing their health by the filthy excreta. In that case dissolve 1½ lb. of softsoap in a gallon of water by boiling, and when boiling-hot add three wineglassfuls of petroleum, stirring briskly till thoroughly amalgamated, then dilute to 10 gallons, and apply at a temperature of 90° to 100° by means of a syringe, or preferably, for economy, a spraying machine, directing the spray upwards, so as to reach the pests that are fastened on the midribs of the leaves, as well as those on the young wood. Maintain the border in a thoroughly moist state. Admit air freely, and keep the house as cool as possible, but not allowing the temperature to fall to an unsafe point at night, as this tends to premature ripening of the foliage. The roof lights should not be removed nor trees in pots placed outdoors until the weather becomes settled, which does not usually occur till the middle of June.

Second Early Varieties.—These are ripening in the house started at the new year, Hale's Early holding first place as a handsome and good quality fruit, but it has not the size of A Bec or the colour of Crimson Galande, while this has not the qualities of Dr. Hogg, which forces well. Stirling Castle has plenty of colour, but is rather smaller than Royal George, yet it possesses its good qualities and is sure forcer. Dymond may be found the finest of all forced Peaches for ripening during the London season, as it combines size, high colour, and quality in the fruit, with a healthy free-bearing habit, and forces quite as well as Royal George. The New Cardinal is the first Nectarine to ripen, but Early Rivers and Stanwick Elruge will long retain favour for early forcing. Ripening may be retarded by a slight shade from powerful sun. Artificial heat will still be necessary, especially in dull and cold weather, to permit a free circulation of air.

Succession Houses.—Lack of moisture at the roots prejudices the swelling of the fruit. In all cases before watering make an examination of the border, and when the soil is becoming rather dry, not before, afford a thorough supply. Overcropping is a frequent cause of premature ripening and lack of quality, as well as size in the fruit. Thin, therefore, in the early stages of swelling gradually, and always have regard to the position of the fruit for receiving light, exposing them from the first as much as possible to the sun. Above all things attend to cleanliness, for it is absolutely essential to the perfection of the current crop and the due provision of buds and stored matter for next year's fruiting.

Late House.—Thinning the fruit prior to stoning must be attended to, also disbudding and tying in the shoots. Do not overcrowd the growths, for light is the essence of fertility. Ventilate early and freely on all favourable occasions. Close early in the afternoon, so as to induce the fruit to swell kindly, and syringe in the morning and afternoon when the weather is bright. Aphides are very troublesome this season. Fumigate or vaporise moderately, having the foliage dry, and deliver the smoke cool. Mildew and even "blister" are not absent this year from trees in cool houses. Probably they are too cold and moist at times, or so variable in atmospheric conditions as to favour the parasites. Sulphur makes an end of the mildew, but both it and "blister" are more

successfully combated by the use of the powder fungicides, such as "Fostite," containing sulphate of copper with lime. Sulphur, however, has the advantage of being hateful to red spider.

Pines.—Plants finally potted last September are showing fruit. If any plants of that age are not fruiting subject them to comparative rest for four to six weeks, lowering the heat at the roots to 75°, and admitting air fully at 75° to 80°, and let the temperature fall to 75° before closing the house for the day; night temperature 60°.

Suckers potted in March should now be placed in their largest pots, affording the plants a regular bottom heat of 85° to 90°, giving water only until the soil becomes dry. Allow young plants sufficient space for development, as sturdy are not to be had by crowding them in the early stages of their growth. Ventilate early in the day at 75° to 80° to render the foliage dry before it is affected by the sun.

Cherry House.—When the whole of the crop is ripe the chief consideration is to keep the fruit fresh and prolong the season as long as possible. Free ventilation must be attended to, and in hot weather a sprinkling of the surface of the border in the hottest part of the day will assist in keeping the fruit plump. The supply of water must not be neglected, for dryness is inimical to the development of the buds for the ensuing season's crop of fruit as well as the health of the trees.

THE KITCHEN GARDEN.

Beans.—Broad Beans have been much stunted by the hot sunshine and cold nights, many of them commencing to flower prematurely. If they can be kept fresh and growing by means of occasional soakings of water and liquid manure they will yet produce good crops. Muleh with strawy litter after the next heavy watering has been given, and top beyond where they cease to set pods. If late supplies are needed sow more seed of the best of the broad-podded section in cool well manured quarters.

Kidney Beans.—Where these were lightly protected from late frosts the plants are growing strongly. Thin out to a distance of 8 to 12 inches apart; draw mould to the stems, this steady and otherwise benefiting the plants. Liquid manure poured along the furrows will also do good service. Sow the stronger growing varieties now, notably Negro Long-pod and Canadian Wonder, thinly in drills 2 feet apart.

Runner Beans.—These where sown early have come up strongly. These, in common with the Kidney or Dwarf section, transplant readily. In colder districts now is a good time to sow for the main crops. Let the Beans have the benefit of a well manured deeply cultivated root run and an open position. The rows should be 6 feet apart if stakes of that height are to be used, another 2 feet being none too much where double lines and taller stakes are arranged for.

Broccoli.—Those raised under glass and pricked out are large enough to finally plant out. The earlier varieties may be planted between widely disposed rows of early short-topped Potatoes. If the rows are 3 feet apart, 2 feet from plant to plant is enough space. Seeing that most of the early Broccoli will be cut before autumn or early winter frosts intervene, they may be grown more strongly than is desirable in the case of late varieties. Broccoli that is wanted to stand through the winter should be planted on ground only moderately rich and made solid, allowing good room, or 3 feet by 30 inches, also tending to keep the plants sturdy.

Brussels Sprouts.—Early plants of these will also have been pricked out in most gardens. Early Potatoes in rows 3 feet apart may at once be planted between, allowing 30 inches from plant to plant. Nearly or quite as much space should be given Brussels Sprouts planted on ground well prepared specially for this important crop.

Tomatoes.—Now that greenhouses have been largely emptied of their winter and spring occupants, some of them, or even the sunny fronts and back walls only, may be devoted to Tomato culture. In these positions the fruit should commence ripening earlier than will those on open air plants, and be particularly acceptable in the event of the latter failing. Large pots, boxes, or small tubs are most suitable. For boxes, pots, or ridges use fresh yellow loam or the best fresh garden soil procurable, and to three parts of this put one part of nearly fresh horse droppings, with burn bake and small charcoal added. Quite small plants, or any not badly root-bound and stunted, are the quickest to take possession of new soil and the first to set crops. See that they are moist prior to turning out of the pots, and replant firmly. If arranged along the front of a house and against back walls plant 12 to 15 inches apart, and if in rows across a house let these be 3 feet apart and the plants 15 inches. In the former instance train straight up the roofs and walls, and the rest stake uprightly or else support with strings running from short stakes to the roof. Confine to single stems, and pinch out all side shoots as fast as they form.

Vegetable Marrows and Ridge Cucumbers.—If these can be protected with hand-lights they may be planted, and seed ought to be sown at once where the plants are to grow in all cases where there are no conveniences for raising a few early plants under glass. Great heaps of manure are by no means indispensable. One foot or less of manure to a width of 3 feet supporting 6 inches of ordinary garden soil is all the ridge needed.

PLANT HOUSES.

Poinsettias.—These should have started well into growth by this time. The old soil should be shaken from the roots and the plants repotted in the same size pots or smaller. They do well in loam, one-seventh of decayed manure, and sand. It is a good plan, after repotting, to stand them on the surface of a slight hotbed in a cool frame. This gives them a good start, and there is no risk of the plants

being checked, as they are subjected to cool treatment gradually. Water carefully at first, and close the frame early after dewing the plants over with the syringe. Young plants raised from portions of stem should be well rooted and ready for 4 or 5-inch pots. These may be placed with the general stock after they are potted, and will grow together. Admit plenty of air during bright warm days to insure firm sturdy growth. Shading may be necessary for a few days after the plants are first repotted until they have made roots, when it should be gradually discontinued and the plants fully exposed to the sun.

Euphorbias.—All the cuttings that are necessary to increase the stock should be either rooted or inserted by this time. Those rooted may be potted singly and started in heat until they are well established. Those that are already established in small pots may be placed in frames with Poinsettias and given the same treatment. The former require smaller pots than the latter. The old stocks reserved for cuttings may be cut close back; these soon break into growth in heat, when they may be repotted. Care is needed at first in the watering of these plants until they are well established. They should be grown throughout the summer in cold frames fully exposed to the sun to ripen their wood. If this is accomplished they are certain to flower well.

Justicia flavicoma.—If plants have been cared for since they flowered good cuttings should now be plentiful. These, if inserted singly in thumb pots and shaded from the sun, will root freely under hand-lights in a close warm house. Directly they are rooted place them into 3-inch pots, and when once established gradually harden them and grow them in cold frames.

Tydaea.—Cuttings of such kinds as Madame Heine should now be rooted. It is a good plan to root them singly in small pots, and remove the lead as soon as they are rooted. This will induce them to branch and make capital plants in 5-inch pots. Cuttings rooted now may be stopped twice, and then allowed to grow. The latest of those that make underground stems may be potted and started into growth.

Begonias.—Those of the manicata type that are well rooted may be placed in 5-inch pots, gradually hardened, and placed into cold frames. These will need keeping close at first, and shading from bright sunshine. Other autumn and winter flowering kinds may be rooted as cuttings can be obtained.

Clerodendron Balfourianum.—Cuttings rooted some time ago, and growing freely in 4-inch pots, should be placed into others 2 inches larger. The plants should be trained under the roof if practicable, so that strong thoroughly ripened growth will be made. This plant does well, and provides handsome decorative material when grown as bushes or small standards. For the first they should be pinched when about 6 inches high, and this should be practised several times during the season. Those for dwarf standards may attain 1 foot or more according to taste before they are pinched. When once they are pinched the treatment should be the same as those required for bushes. The plants should be grown fully exposed to the sun if they are to flower well another season.



THE DROUGHT.

THE exceptionally fine weather experienced during the past three weeks has been the general topic of conversation. The wind being chiefly in the N.E., a lower temperature on the whole prevailed than would have been the case had it been in a south-westerly direction, as even on the warmest days, when the shade temperature ranged from 70° to 80°, there was always a cold breeze. Although pleasant, it had the effect of drying the land very much and retarding the growth of vegetation. On thin soils the grass has a very parched-up appearance, and the White Clover in the seed pastures has made but little headway, owing to being grazed so closely by sheep and the lack of moisture at the root. This is not to be wondered at, when one takes into consideration the amount of the rainfall this year.

As the first four months have only yielded a total of 3.85 inches, as compared with 7.63 inches for the same time in 1895, and as 1 inch of rainfall is about 100 tons of water per acre, it will at once be seen how short the water supply must be in some parts of the country. But to-day (22nd May) and the previous twenty-four hours nearly half an inch of rain has fallen in a steady downpour, and the parched pastures have already freshened considerably.

But what has this to do with bee-keeping? someone may ask. As is now pretty well known to bee-keepers, the weather is a great factor in honey production, for without bright, warm weather it is useless to expect the bees to collect honey, as they will remain about their hives, and will not fly far from home, knowing full well that the nectar will not rise in the flowers without warmth.

Those bee-keepers who have carried out previous instructions will by this time have a fair sample of honey stored in supers. It is many years since the bees have been favoured with such fine weather and the trees been so full of blossom as this spring.

Latterly the Sycamore and fruit trees have yielded a plentiful supply of both honey and pollen, and now the Hawthorns and Strawberries are a sheet of white bloom. During the past ten days bees have worked freely and stored honey in abundance from these sources. Although the air was cold the bright sunshine warmed the atmosphere sufficiently to allow the bees to obtain the nectar from the numberless flowers.

In my own apiary some sections that were placed on the hives a fortnight ago are now full, and partly sealed over; others that were doubled about the same time have increased in weight very rapidly, some of the combs being filled with honey. That obtained from the Hawthorns has a strong and pleasant perfume, which is readily observed, even by the inexperienced, on opening the hive.

It is only on strong stocks that supering has been carried out, and never before has the practical manipulation of bees been brought more prominently to the notice of individual bee-keepers, and the advantage to be derived from the system advocated in these pages, showing bee-keepers the value of having some of their stocks strong, so as to take advantage of a spell of bright weather during the flowering period of the above.

All stocks are not in a condition for storing a surplus, but as it is nearly a month from the usual time of the honey flow from the White Clover there is still ample time to have all in good condition, and as field Beans are fast opening their flowers much benefit will be derived from them, and where grown in quantity yield a harvest of superior honey, although rather dark in colour, before the White Clover is ready. The young plants of the latter are not looking very promising at present owing to the drought; but some warm showers will work wonders in a few days. Such is my experience in the Midlands. The outlook at present is very promising. All will depend on the weather experienced during the next two months.

NATURAL SWARMING.

Early swarms, as was expected after the open winter and forward spring, have been very prevalent. The first that I heard of in this district came from a stock in a straw skep on the 8th inst., and as the skep was a large one so was the swarm, which was placed in a frame hive, and will doubtless give a good account of itself before the end of the season. This is encouraging to the advocates of the frame hive. As this bee-keeper had never before possessed a moveable-frame hive, others will doubtless follow in his footsteps. Since the above date many other swarms have appeared in the neighbourhood. Should the weather continue dull and wet for many days the swarms ought to be fed with thin syrup; this will keep the queen breeding, and the stock will be in good condition to store a surplus when the time comes. A note should be made of the different stocks and swarms, remembering that the old queen always goes with the first swarm; there is then no queen left in the parent stock; but numerous queen cells containing grubs in various stages of development, which will eventually hatch as fully grown queens, usually about eight or ten days after swarming.

The first queen to escape from her cell will often destroy the other queens that are still in their cells, but if the bees are plentiful and the weather favourable the worker bees will prevent her attacking them. When this takes place she utters a shrill piping sound. This is called piping, and if the weather be favourable they will swarm again the next day without fail. This is called a cast, and will be headed by an unfertilised queen. One of the remaining queens will head the colony, killing off all the other queens, whether in their cells or otherwise. A strong colony will sometimes throw off three or more casts, but this is not to be encouraged, as they will be of little use for storing a surplus. They are, however, useful for supplying young queens to those stocks that have aged or otherwise unsatisfactory queens.

A novel way of hiving a swarm came under my notice last year. A bee-keeper was driving along a country lane within a few miles of where I am writing, when he espied a splendid swarm of bees clustered in the hedge. No house was near, and he was loth to leave them. His inventive mind, however, soon helped him out of the difficulty, as taking off his shirt, and with the assistance of some string, he formed it into a bag, into which he shook the bees, and drove off home, placing them at once into a frame hive, on frames of fully drawn out combs or foundation, and a few days afterwards gave them a crate of sections. These they filled, and were well finished off, being afterwards exhibited at a local show, and was awarded a prize by—AN ENGLISH BEE-KEEPER.

VAGRANT SWARMS.

I NOTICE that "Henri," in last week's *Journal of Horticulture*, in his simplicity, or it may be straightforwardness, gives publicity to a piece of sharp practice, doubtless unintentional on his part, but which it would appear is too frequently practised by bee-keepers from whom we might expect better things. It is a well-known

fact that a hive full of combs without bees kept open in a garden or otherwise at this season is a regular bee-trap, in fact, a more infallible "swarm-catcher" could not be invented, and to allow such a hive to remain is looked on by all honourable bee-keepers as a dishonest act. It is well known that when a hive ready for swarming finds such a place the bees will go off straight to it when they swarm instead of staying in an empty hive. Already, though swarming has hardly commenced here, I have heard of several cases in the district, and it is being discussed whether our local associations should not take the matter up with a view to exposing the practice, or whether there is any legal redress. I am told there is an old Scotch law against this which has never been repealed. If this be so it is a pity but it could be brought into operation against those who knowingly set traps to capture their neighbour's property.—A BERWICKSHIRE BEE-KEEPER.

[To purposely set "traps" with the object of catching other persons' bees is obviously immoral. We are satisfied there was no such intention on the part of "Henri," who is a gardener of repute in England, and not a bee catcher in Scotland, where, or at the least on the borders, we are told that "swarm trapping is a crying evil."]

TRADE CATALOGUES RECEIVED.

J. Carter & Co., 237, High Holborn, London.—*Abridged List of Seeds.*

Skinner, Board, & Co., Rupert Street, Bristol.—*Wire Tension House.*



All correspondence relating to editorial matters should be directed to "THE EDITOR." Letters addressed personally to Dr. Hogg or members of the staff often remain unopened unavoidably. We request that no one will write privately to any of our correspondents, as doing so subjects them to unjustifiable trouble and expense, and departmental writers are not expected to answer any letters they may receive on Gardening and Bee subjects, through the post.

Correspondents should not mix up on the same sheet questions relating to Gardening and those on Bee subjects, and should never send more than two or three questions at once. All articles intended for insertion should be written on one side of the paper only. We cannot, as a rule, reply to questions through the post, and we do not undertake to return rejected communications.

Propagating Asparagus plumosus (Nemo).—Branchlets 3 to 4 inches long slipped from half-ripe shoots inserted in cocoa-nut fibre refuse in a close warm frame, kept moist, produce roots in four or five weeks, also in leaf mould and sand under bell-glasses. Many plants are also raised from seeds, and if your plant produces any you had better sow them.

Intermediate Stocks (Gardener).—Nowhere are these Stocks seen finer than in Covent Garden Market, where they are sold by thousands for the decoration of metropolitan homes. The scarlet, or rather crimson, variety is the best. Sow very thinly in rich light soil in the open garden at the end of July. If the soil of the garden is naturally heavy prepare a compost of light loam and very much decayed manure or leaf soil in equal parts, and make a bed of this about 3 inches thick in which to sow the seed. If the seed bed can be so formed as to be covered with hand-lights or other glass protectors so much the better, as if drenching rains occur when the seedlings are in a small state much injury may be done; still, the young plants must not be coddled, but should be encouraged to assume a sturdy habit of growth from the beginning of their career. When they are large enough to be handled, and before they are in the slightest degree crowded in the seed beds, remove them singly in 3½-inch pots, place them in a frame, and keep them close for a week, and shaded if the weather is sunny, but the moment they can endure the sun they enjoy it, also all the air possible, even to the extent of removing the lights entirely night and day during settled weather, and dwarf vigorous plants will be produced before winter. They should be wintered close to the glass in very light frames, and must have protection in severe weather. They will require little water during the dull days, yet must have sufficient to keep them in a fresh growing state, but decay of the foliage should be specially guarded against. If very dwarf plants are required they may remain in these pots until they produce flower buds, and the moment it can be ascertained which will be double and which single, either shift the former into larger pots, using very rich turfy soil, or plant them out if the weather is favourable.

Thinning Plums (B. F. G.).—The fruit should be thinned in proportion to the vigour of the tree. If very vigorous it will bring to perfection more fruit than were it only moderately so, and more if moderately vigorous than weak. Two or three fruit would be sufficient to leave on each cluster, in order to have them a good size and to finish satisfactorily, and about two such, or half a dozen fruit to each square foot, would be an ample crop. We should not, however, thin too severely at first, but allow the fruit to swell freely before reducing it to the quantity required for the crop, and it is best done gradually, a few at a time or each day in preference to removing a large quantity at once, leaving a few more than will be required to meet casualties.

Vine Leaves Scorched (Reader).—In all probability the leaves are discoloured through the evaporation being in excess of the power of the roots to absorb moisture, and in consequence the tissues shrink and scorch. The proper thing to do would be to shade, but this is inconvenient in the case of vineries, so the next best thing, and the one that finds most favour with growers, is to admit air very carefully in hot weather, commencing early—just a little to cause a circulation, and increase it gradually with the advancing temperature, and so have the leaves dry before the sun acts powerfully upon them. Evaporation is thereby progressive, and the roots seconding the demand for nutriment are brought into comparatively increased action, and so are capable of meeting the demand when steady; but when air is not given until the temperature is high and the sun powerful, the evaporation is so great and sudden that the roots are unable to respond to the call made upon them, and in consequence the tissues of the leaves are dried up. Earlier ventilation and more moisture in the atmosphere obtained by damping available surfaces other than the foliage two or three times in the early part of the day, so as to keep the house cool, would probably have prevented the mischief.

Clematis from Cuttings (Novice).—These are generally grafted on pieces of root obtained from old plants grown outside, those of *C. flammula* answering the purpose well. These should be split open and the small scions inserted and tied with matting. A single bud is sufficient. They should be placed in small pots, and transferred to a propagating case or close frame with a warm moist atmosphere. When well united harden them gradually. Cuttings can be made of the young shoots, which may be cut up to an eye, and inserted in small pots of sandy soil in gentle heat, covering with a close frame. Layers emit roots at the joints covered, in the course of a year, provided they are well watered, severing in the spring just before growth commences.

Sulphuring Hot-water Pipes (E. A. C.).—It is not safe to apply sulphur to hot-water pipes before the Grapes are well advanced in ripening, as the fumes, which are given off at a temperature of 170°, are calculated to injuriously affect the skins of the Grapes, hardening them and thus preventing swelling, and causing them to colour prematurely. The effects of sulphur, however, differ with the varieties. Black Hamburgs are the least susceptible of damage, but Muscat of Alexandria, White Frontignan, and other white thin-skinned Grapes are soon affected, and assume a purplish hue, which mars their appearance, though not materially affecting the quality. We have applied sulphur to the hot-water pipes without injury resulting by using the mixture rather thin, the sulphur being brought to the consistency of thin cream with skim milk, painting the pipes when heated not above 170°. Sulphuring the hot-water pipes is a good means of destroying red spider and white fly, but it requires to be done with care and judgment.

Mildew on Vines (A. G. P.).—We do not remember the article to which you refer. Mildew if combated in its early stages can generally be suppressed. It usually attacks the tender leaves on the sub-laterals first, therefore keep these closely pinched. If the parasite is seen to take possession of a few of the main leaves promptly sponge them with a cream-like mixture of soft soap and sulphur, allowing the sulphur to remain on them three or four days. By highly heating and sulphuring the pipes the fumes emitted are liable to injure the berries in their early stages. Avoid a close moist atmosphere, and maintain a night temperature of 60° to 65°, with the top sashes open to the extent of an inch or so, and while increasing the ventilation early on bright mornings guard against sharp currents of air through the front sashes or door, as chilling resulting from the inrush of cold air is almost a certain precursor of mildew. In most gardens (though yours may be an exception) a better position can be found for Chrysanthemums than the Vine border, and apart from mildew their absence would be advantageous to the Vines.

Names of Fruits.—Notice.—We have pleasure in naming good typical fruits (when the names are discoverable) for the convenience of regular subscribers, who are the growers of such fruit, and not collectors of specimens from non-subscribers. This latter procedure is wholly irregular, and we trust that none of our readers will allow themselves to be made the mediums in infringing our rules. Special attention is directed to the following decision, the object of which is to discourage the growth of inferior and promote the culture of superior varieties. In consequence of the large number of worthless Apples and Pears sent to this office to be named, it has been decided to name only specimens and varieties of approved merit, and to reject the inferior, which are not worth sending or growing. The names and addresses of senders of fruit or flowers to be named must in all cases be enclosed with the specimens, whether letters referring to the fruit are sent by post or not. The names are not necessarily required for publication, initials sufficing for that. Only six specimens can be named at once, and any beyond that number cannot be preserved. They should be sent on the first indication of change towards ripening. Dessert Pears cannot

be named in a hard green state. (H. E. A.).—D'Arcy Spice or Spring Ribston. We have no recollection of receiving previous specimens.

Names of Plants.—We only undertake to name species of plants, not varieties that have originated from seeds and termed florists' flowers, Flowering specimens are necessary of flowering plants, and Fern fronds should bear spores. Specimens should arrive in a fresh state in firm boxes. Slightly damp moss, soft green grass, or leaves form the best packing, dry wool the worst. Not more than six specimens can be named at once, and the numbers should be visible without untying the ligatures, it being often difficult to separate them when the paper is damp. (J. D.).—1, *Centranthus macrosiphon*; 2, *Hamamelis japonica* (the Japanese Witch Hazel); 3, *Cheiranthus alpinus*. (R. T.).—Forms of *Odontoglossum crispum* of average merit. (Kemo).—*Saxifraga granulata*.

COVENT GARDEN MARKET.—MAY 27TH.

FRUIT.			
	s. d.	s. d.	
Apples, per bushel	2 0	to 4 6	
„ Tasmanians, per case	10 0	12 0	
Grapes, per lb.	1 6	3 0	
Lemons, case	11 0	to 14 0	
Peaches	6 0	15 0	
St. Michael Pines, each	2 0	6 0	
Strawberries, per lb.	1 0	2 6	

VEGETABLES.			
	s. d.	s. d.	
Asparagus, per 100	2 0	to 3 6	
Beans, per lb.	0 9	1 2	
Beet, Red, dozen	1 0	0 0	
Carrots, bunch	0 3	0 4	
Cauliflowers, dozen	2 0	3 0	
Celery, bundle	1 0	0 0	
Coleworts, dozen bunches	2 0	4 0	
Cucumbers, dozen	1 6	3 0	
Endive, dozen	1 3	1 6	
Herbs, bunch	0 3	0 0	
Leeks, bunch	0 2	0 0	
Lettuce, dozen	1 3	0 0	
Mushrooms, per lb.	0 6	0 8	
Mustard and Cress, punnet	0 2	to 0 0	
Onions, bushel	3 6	4 0	
Parsley, dozen bunches	2 0	3 0	
Parsnips, dozen	1 0	0 0	
Potatoes, per cwt.	2 0	4 0	
Salsafy, bundle	1 0	1 6	
Seakale, per basket	0 0	0 0	
Scorzonera, bundle	1 6	0 0	
Shallots, per lb.	0 3	0 0	
Spinach, pad	0 0	4 6	
Sprouts, half siv.	0 0	0 0	
Tomatoes, per lb.	0 6	1 3	
Turnips, bunch	0 3	0 0	

PLANTS IN POTS.			
	s. d.	s. d.	
Arbor Vitæ (various) doz. ..	6 0	to 36 0	
Arum Lilies, per dozen	6 0	9 0	
Aspidistra, dozen	18 0	36 0	
Aspidistra, specimen plant ..	5 0	10 6	
Calceolarias, per dozen	6 0	9 0	
Oineraria, dozen pots	4 0	6 0	
Dracæna, various, dozen	12 0	30 0	
Dracæna viridis, dozen	9 0	18 0	
Ericas, various, per dozen	9 0	24 0	
Euonymus, var., dozen	6 0	18 0	
Evergreens, in var., dozen ..	6 0	24 0	
Ferns in variety, dozen	4 0	18 0	
Ferns (small) per hundred ..	4 0	6 0	
Ficus elastica, each	1 0	7 0	
Foliage plants, var. each ..	1 0	5 0	
Hydrangea, various, doz. ..	9 0	to 24 0	
Ivy Geranium, per dozen ..	3 0	7 0	
Lilium Harrissi, per dozen ..	15 0	24 0	
Lobelia, per dozen	4 0	6 0	
Lycopodiums, dozen	3 0	4 0	
Marguerite Daisy, dozen	6 0	9 0	
Mignonette, dozen pots	4 0	6 0	
Myrtles, dozen	6 0	9 0	
Nasturtium, per dozen	3 0	6 0	
Palms, in var., each	1 0	15 0	
„ (specimens)	21 0	33 0	
Pelargoniums, per dozen ..	8 0	12 0	
„ scarlets, per dozen	3 0	9 0	
Spiræas, doz.	6 0	9 0	

AVERAGE WHOLESALE PRICES.—CUT FLOWERS.—Orchid Blooms in variety.

CUT FLOWERS.			
	s. d.	s. d.	
Anemone (French), dozen bunches	2 0	to 4 0	
Arum Lilies, 12 blooms	2 0	4 0	
Asparagus Fern, per bunch ..	2 0	4 0	
Azalea, dozen sprays	0 4	0 6	
Bouvardias, bunch	0 6	1 0	
Carnations, 12 blooms	1 0	3 0	
Oornflower, dozen bunches ..	2 0	3 0	
Eucharis, dozen	2 0	4 0	
Gardenias, dozen	2 0	3 0	
Gerauium, scarlet, doz. bunches	4 0	6 0	
Iris (English) doz. bunches ..	4 0	6 0	
Lilac (French) per bunch ..	3 0	4 0	
Lilium longiflorum, twelve blooms	3 0	5 0	
Lily of the Valley, 12 sprays ..	0 6	1 0	
Maidenhair Fern, doz. behs. ..	4 0	8 0	
Marguerites, 12 bunches	2 0	3 0	
Mignonette, per dozen bunches	3 0	4 0	
Myosotis or Forget-me-not, dozen bunches	1 6	2 6	
Narcissi, var., doz. bunches ..	0 9	2 0	
Orchids, various, per dozen blooms	1 6	to 12 0	
Pæonies, various, per dozen blooms	0 6	1 6	
Pelargoniums, 12 bunches	4 0	8 0	
Polyanthus, dozen bunches ..	1 6	2 6	
Poppies, various, per dozen blooms	0 2	0 6	
Primula (double), dozen sprays	0 6	1 0	
Pyrethrum, dozen bunches ..	1 6	3 0	
Roses (indoor), dozen	0 6	1 6	
„ Tea, white, dozen	1 0	2 0	
„ Yellow, dozen (Niels) ..	2 0	4 0	
„ Red, dozen blooms	2 0	4 0	
„ Safrano (English), dozen	1 0	2 0	
„ Pink, per dozen	3 0	5 0	
Smilax, per bunch	3 0	5 0	
Spiræa, dozen bunches	3 0	5 0	
Stephanotis, dozen sprays ..	2 0	3 0	
Tuberose, 12 blooms	0 6	1 0	
Wallflowers, per dozen bunches	2 0	3 0	



ON DAIRY WORK.

IN dealing with this subject it may be useful to first briefly note the principal breeds of dairy cattle found in this country. First in order of merit come the Channel Island cattle, which include Jerseys, Guernseys, and Alderneys, the latter an almost extinct breed, and the result of a Jersey-Guernsey cross.

The Jersey cow, with beautiful deer-like head, tawny coat,

and black points, is too well known to need much description. "She has been the aristocrat of the cowyard ever since," to quote a witty American, "Nature first issued the *edition de luxe* bound in calf." The drawbacks to the Jersey are her delicacy of constitution, susceptibility in a cold climate to milk fever, and the difficulty with which she can be fattened off when her work as a butter producer is accomplished.

The Guernsey is much like the Jersey, but slightly larger and stronger. Colour fawny yellow, with white patches and white points. The Guernsey is less graceful than the Jersey, but has more stamina. The skins of both breeds should be yellow.

The milk of Channel Island cows is of the very highest quality, and the butter produced is very firm, rich, and of beautiful colour. In our opinion, however, the most delicate flavoured butter is obtained from mixed milk, not from Channel Island milk alone.

Shorthorns—This breed is chiefly a beef-producing one, yet some strains give animals which are very heavy milkers. The milk of the Shorthorn is well adapted for cheese-making, and in the Cheddar district dairies of forty, fifty, and even 100 non-pedigree Shorthorns are to be met with.

Ayrshires.—These cows are smaller than Shorthorns, red or white in colour, but never roan. Their milk is also very suitable for cheese-making.

Dutch.—These are large black and white animals. They give an immense quantity of poor milk, and are principally kept by milk sellers.

In all dairy cows the udder should be regular in shape, not fleshy, but as large as possible; milk veins well developed and knotted; a long thin tail is also considered a good sign.

It will be seen that according to the breed selected so to a certain extent will be the nature and quality of the milk produced. Feeding also affects the quality and quantity, but no amount of good food could make the milk of a poor foreign cow equal to that of a Jersey. Certain foods, however, have a marked effect on the butter—viz., new spring grass, which imparts a beautiful colour and flavour, and Turnips, which give the well-known bitter taste, so troublesome to eradicate.

After obtaining good dairy cows, supplying them with plenty of suitable food, treating them kindly, milking them at regular intervals, and as much as possible by the same person, the golden rule to observe is extreme cleanliness without which everything else goes for little or nothing, and the most can never be made of our dairy produce.

Cleanliness should be observed from the very commencement—cleanliness of the cowsheds, of the cow's udders, of the milker's hands, and of all pails and utensils used during the process of milking. Milk is often tainted by dirt and foul smells before ever it reaches the dairy, thus never giving the buttermaker a fair chance.

No time should be lost between milking and setting, as loss of time always means loss of butter. This is even the case, though in a less degree, when a cream separator is used. When the milk is to be sold as milk it must be rapidly cooled, and should not be allowed to travel at a temperature of over 58° F.

We recollect once seeing some five or six large milk churns standing in a running stream beneath an overhanging Thorn bush. The owner, not possessing a refrigerator, hit upon this simple method of cooling his milk before sending it by rail to the nearest large town, twenty-five miles away.

Milk, being a very absorbent liquid, is most susceptible to dust and dirt, and smells of any kind, hence the aspect and condition of the dairy is important. Not only should a dairy itself be kept scrupulously clean, cool, and dry, but the very air should be clean and untainted. On this account the best situation would be on the north side of the house, and far away from pig-tyes, shippens, and pools of stagnant water. To further

free the dairy from all taint it must on no account be used as a larder. If very pressed for room use a china panty instead.

A perfect dairy need by no means be very costly; mud walls of good thickness, thatched roof, concrete floor, sloping to one point, where there should be an open gutter passing through the wall to a glazed pipe on outside for conveying waste water to a drain at some little distance; windows to open inwards, outside being covered with gauze wire. A frequently renewed coat of whitewash for walls and ceiling, together with a good supply of cold spring water, and we have a dairy fit for a king!

WORK ON THE HOME FARM.

The long-wished-for rain has come at last, and brought a very chilly atmosphere with it; but we must not grumble at that, the land is warm enough, and doubtless the crops will make surprising progress, regardless of the lower temperature.

Mangold seed still lying dormant (and we fear there are too many in that condition) will now have a chance to germinate; some people will say too late, but with a warm summer to follow there is no need to despair. As the hay crop is sure to be a light one, the necessity for a good supply of Mangolds is made more acute.

We are about to commence drilling Swedes, and as the land is even yet not too moist, we shall leave the farmyard manure over for other uses, and depend only on artificial substitutes. If sown broadcast and ploughed in, they do not lay the land open to such drying influences as yard manure; more time, too, is occupied in getting the latter put on, and the ridging and splitting tend to dryness, so that, all things considered, we think the advantage will lie with "artificial" this year; we shall also be able to complete sowing in half the time, and so take fuller advantage of the present moisture.

ARTIFICIAL MIXTURE FOR SWEDES PER ACRE.

				s.	d.
2 cwt. of bonemeal at £4 5s. per ton	...	...	...	8	6
2 " superphosphate at £2 2s. 6d.	...	...	...	4	3
0 $\frac{3}{4}$ " nitrate of soda at £8 ...	...	...	...	6	0
				18	9

4 $\frac{3}{4}$ cwt. of mixture, £4 per ton.

This mixture, costing about £4 per ton, contains 3.75 ammonia with 36.00 of phosphates, and should grow Swedes without farmyard manure.

We have just seen our early Turnips peeping through, six days after drilling—very good for May.

Lucerne will now be in full cut, and proving its great value as fodder to the owner of burnt-up pasture. Clovers have suffered terribly, but Sainfoin, another drought-loving plant, promises well; we have seen one most satisfactory field of it.

Potatoes are coming through well, and growing rapidly. The horse hoe must be kept at work between the rows, and hand-hoeing will follow as soon as all are through. Second earlies should be cleaned as soon as possible or great damage may be done if the young tubers are disturbed. Rooks sometimes do great injury to Potatoes at their present stage; they are very fond of the young and tender tuber, and one rook can consume a large number when they are the size of Marrowfat Peas. They will sometimes do enormous damage before being observed.

We shall give our Potatoes a top-dressing of sulphate of ammonia at once—an average of 2 cwt. per acre, varied according to requirement. Care must be exercised when applying it, only when the haulm is absolutely dry, or it may be scorched and blackened as though by frost.

METEOROLOGICAL OBSERVATIONS.

CAMDEN SQUARE, LONDON.

Lat. 51° 32' 40" N.; Long. 0° 8' 0" W.; Altitude 111 feet.

DATE.		9 A.M.				IN THE DAY.				Rain.	
1896 May.	Barometer at 32°, and Sea Level.	Hygrometer.		Direction of Wind.	Temp. of soil at 1 foot.	Shade Tem- perature.		Radiation Temperatur.			
		Dry.	Wet.			Max.	Min.	In Sun.	On Grass		
		Inchs.	deg.	deg.		deg.	deg.	deg.	deg.	Inchs.	
Sunday .. 17	30.234	57.7	51.1	N.W.	58.2	71.4	49.6	108.1	44.2	—	
Monday .. 18	30.227	65.3	57.9	N.	59.0	74.8	55.9	100.2	53.9	—	
Tuesday .. 19	30.102	57.2	53.9	N.W.	59.0	70.9	52.4	120.6	45.1	—	
Wednesday 20	29.888	54.2	45.0	N.W.	59.0	58.6	48.1	108.9	41.9	0.11	
Thursday . 21	30.129	51.2	42.2	N.W.	56.7	60.7	38.6	110.8	32.2	0.120	
Friday .. 22	29.939	49.7	45.7	S.W.	56.3	59.1	45.4	70.1	40.0	0.010	
Saturday .. 23	30.018	58.0	55.3	N.	55.8	56.8	50.1	98.3	50.2	—	
		30.077	56.2	50.6		57.7	66.0	48.7	102.4	43.9	0.141

REMARKS.

17th.—Generally overcast, but bright sunshine at times.
 18th.—Overcast and gloomy all day; thunder at 3.50 P.M., spots of rain at 5.20 P.M.
 19th.—Slight rain early; overcast morning; generally sunny in afternoon.
 20th.—N.W. gale, with alternate cloud, sunshine, and showers.
 21st.—Brilliant early, with high wind; alternate cloud and sunshine during day.
 22nd.—Steady rain from 3 A.M. to 8 A.M.; overcast and dull all day.
 23rd.—Spots of rain early; overcast morning.
 A week of variable temperature, but as a whole very near the average. Rain on three days, but an appreciable quantity on only one day.—G. J. SYMONS.

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BEGONIAS.—12 splendid double, mixed colours ..	6	0
CHRYSAANTHEMUMS.—12 grand new Japanese ..	6	0
CHRYSAANTHEMUMS.—6 grand new Incurred ..	3	6
CHRYSAANTHEMUMS.—12 grand new early-flowering, for pots or ground ..	6	0
CHRYSAANTHEMUMS.—12 early-flowering Pompons ..	3	6
CHRYSAANTHEMUMS.—12 beautiful singles, all for cut flowers ..	4	0
DAHLIAS.—12 grand new Cactus kinds ..	6	0
DAHLIAS.—12 best older Cactus kinds ..	3	6
DAHLIAS.—12 splendid Show and Fancy kinds ..	3	6
DAHLIAS.—12 beautiful single kinds ..	3	6
FUCHSIAS.—12 splendid double kinds, including White and Rose Phenomenal ..	4	0
FUCHSIAS.—12 splendid single kinds ..	3	6
SHOW AND DECORATIVE PELARGONIUMS.—12 splendid kinds ..	6	6
ZONAL PELARGONIUMS.—12 best new singles, 1895, including Pearson's, Miller's, and Oannell's ..	8	0
ZONAL PELARGONIUMS.—12 very fine older kinds ..	4	0
ZONAL PELARGONIUMS.—12 best new double and semi-double kinds, including double H. Jacoby and Raspail Improved ..	6	6
ZONAL PELARGONIUMS, Double.—12 best older kinds ..	4	0
IVY PELARGONIUMS.—12 best kinds ..	4	0
DOUBLE PETUNIAS.—12 grand kinds ..	6	0

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50 lb. Bags, 10s.; and 1 cwt. Bags, 15s., Carriage Paid.

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six choice named singles, 1s. 9d., all post free; or two dozen
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Journal of Horticulture.

THURSDAY, JUNE 4, 1896.

RATING OF FRUIT PLANTATIONS.

IN speaking at Thorney in the Isle of Ely recently on the depressed condition of agriculture, the Duke of Bedford referred to the extra rates that had to be paid by owners who had carried out improvements. "I have established," he said, "near Woburn an experimental fruit farm. An ordinary arable field was converted during the autumn and winter into a fruit garden by the employment of capital and labour. The land was duly planted with a valuable stock of fruit trees and bushes, and after a few months there came up, I confess to my amazement, for I had not foreseen this result of my experiment, the overseer. Now the parish overseer said, 'The employment of capital has wrought a great change in this spot, and it is my duty to report the same, and to treble your rates.' Well, I was in search of experience in the matter of fruit farming, and I am now in a position to record an important result; it is this. If you invest capital in a fruit farm your rates will be trebled before you have any chance of a return for your outlay."

We cannot withhold the expression of our opinion that the action of the authorities in this case very closely resembles what is known as sharp practice. The Duke of Bedford has at great outlay established this fruit experimental station, not for personal gain but public instruction. It is not a case of fruit farming in which the land may be supposed to yield more than under ordinary tillage, and if it were there has been no time for the trees to bear fruit, as they are only just becoming established. The imposition of extra rates under such conditions is harsh; but that is not the point in the present instance.

We have heard complaints of owners of private gardens, which are largely cultivated for purposes of gain, being placed under favoured conditions of rating as compared with ordinary market gardeners, but this Woburn case is wholly different. There has been no gain, none was expected, nor can any accrue. The Duke has been rated on his outlay—on the benefit he has conferred on others by the employment of labour, the purchase of materials, and other expenditure incident to the establishment of a series of scientific and practical experiments, such as are not elsewhere to be found in this country.

The fruit experimental station at Woburn is not a commercial undertaking at all, so far as regards its financial returns to the owner. The only advantages that can accrue will be obtained by others, who may act successfully on the information gained through the Duke's willingness to find the means for its production. The establishment in question, for which its well-disposed owner has been trebly rated, is as much an educational establishment as Kew is, though in a different direction, and not less useful to a large and important class of the industrial population.

If there has been no misconception of the nature and objects of this Pomological School, formed and supported for purposes of instruction—to be freely disseminated, then would the law as applied seem obstructive. In America there are State schools of this nature, but in England it would seem that those who are wealthy and willing to provide them at their own expense must be practically fined for doing so, as in this case at Woburn. We do not suppose the Duke will mind the imposition of which he is the surprised victim, but it will be a warning to others not to help forward the cause of industrial education in a similar way.

SPINACH.

NOT often do we see any great amount of space devoted to this familiar vegetable in the gardening Press. It would seem to possess few charms to the expert penmen who entertain and instruct on most gardening topics. True they sometimes differ from each other in the "treatment" of certain plants and the culture of different crops, as experience entitles them, but in one thing they appear to agree, and that is to let Spinach alone.

Why is this? Can it be that as a theme it affords little scope for indulgence in poetic fancy? or is it because it does not lend itself to scientific disquisition? Is the subject too plain and simple for erudite practitioners, who prefer to aspire to higher things? Possibly none of those influences is the determining cause of the "conspiracy of silence," and it may be that our teachers, so fluent and versatile, simply let Spinach alone with their pens, either because they do not like it or because they have with singular unanimity arrived at the conclusion that there is nothing to be said about it.

That there are many persons, including gardeners, who are not enamoured of Spinach as a table delicacy is certain, but they cannot all be in antipathy to it. One authority suggests half, and no obscure authority either, for all who will may read in Sutton's little vegetable cookery book that "Spinach may be said to divide the world into two factions, comprising those who love it and those who hate it," going on to say "perhaps many who hate it would come over to the happier faction if the cooks would do their duty." Perhaps, for Spinach when properly cooked possesses a flavour all its own, and is undoubtedly agreeable to many palates. If this were not so the vegetable would not be in the bill of fare of so many London restaurants and other such places where thousands congregate daily in quest of a good dinner.

Then we have evidence that Spinach is not only good but wholesome, for Professor Church, who appears to have analysed everything that is commonly eaten, says so. These are his words:—"Besides the Cabbage and its many varieties the green leaves of many other plants are eaten after being boiled. Spinach (*Spinacia oleracea*), a native of Western Africa, is used in this way, and is a wholesome vegetable. It contains much nitre." The Professor also observes that "the great majority of plants in this section are distinguished from those that are grown for their roots or seeds by the presence of chlorophyll, the green colouring matter of leaves. Its nutritive value is not known, however, as yet." But whatever the hygienic value of chlorophyll may be, we seem to have a maximum of it in Spinach, for is it not the greenest of all vegetables in a cooked state?

As further evidence of the health-giving properties of Spinach, one of the most celebrated London physicians expressed his opinion very emphatically to the writer that if the consumption of Spinach was doubled—or, better, trebled—it would not be to the advantage of himself and his professional associates, but would be decidedly conducive to the health of the community. There is thus something to be said for this plain and often lightly regarded vegetable after all. But if Spinach is not often written about, it must be grown in all gardens in which a representative supply of vegetables has to be maintained. It is, practically speaking, the only green-leaved culinary vegetable we have outside the Brassica family,

though Lettuces and Endive, also Sorrel and Nettles, are occasionally served in a cooked state.

Spinach is a staple vegetable for culinary purposes, and its absence from gardens at certain times has often been felt as a great inconvenience. It is an all-the-year-round vegetable, plentiful or may be in the autumn, not infrequently affording welcome leaves through the winter and in early spring, becoming abundant as spring merges into summer, and is then the most in demand, though there is often a tantalising call for it during a period of great heat and prolonged drought when it does not seem to have time to develop large leaves in its haste to produce flowers, and especially when the soil is poor as well as dry. Under these conditions nitrate of soda is helpful, and also to many other crops besides the one under notice.

If Spinach were not a crop of recognised value and importance, a trial of varieties would not be conducted by the Royal Horticultural Society at Chiswick, as is the case this season, and if those writers for the Press who don't like Spinach, and think that nothing can be said about it, could have been present at the examination of over sixty rows last week they would not have found a silent gathering of inspectors. It appeared to be a very serious business with them to decide on the differing characteristics of the thirty-two varieties, or, rather, of that number of stocks or strains under different names.

Some of these gentlemen appeared to have keener Spinach eyes than others, enabling them to detect minute differences that could not be made apparent to their colleagues. One examiner would satisfy himself that there were ten distinct varieties in the collection, another could only find eight, a third six, a fourth five, and a fifth, judging by the plants alone, and not by the seeds (round or prickly), could only find four well marked types.

1, The well-known large Prickly or Winter Spinach, with good-sized thin, light green, arrow-shaped leaves, tall in growth, productive, and early flowering.

2, Improved Prickly (Watkins and Simpson) of dwarfier growth, with distinctly broader light green leaves, and later in producing flower stems.

3, Round-leaved or Summer Spinach, known also as Dutch or Flanders Spinach, with large, smooth, clear green leaves, moderately stout, and good either for autumn or spring sowing.

4, Longstander (both round and prickly seeded), plants very dwarf, leaves deep green, stout or "leathery" in texture, and very late in producing flower stems. Not good for autumn sowing, but valuable for summer use.

Some of the examiners fancied the Viroflay was distinct from any of the four varieties named, but others found it hard to separate the plants from the No. 3 group. Then if shape of seed, and not character of leaf, conveys the stamp of distinctness, there were two dark green late Longstanders. Admitting this and also the Viroflay, or Victoria, as distinct from the Flanders, this leaves six only out of the thirty-two samples grown under dissimilar names. All were sown on April 4th and examined on May 28th.

Some with thin light green leaves were called Longstanders, an obvious mistake, for they were showing their flower stems freely. Then half a dozen with dark thick leaves and no signs of flower stems had dissimilar names, but they were all the same variety—Longstander. This distinct Spinach is likely to attain wide popularity by its power of standing longer in dry hot weather than any other; but at the same time it must not be wholly relied on, as the pale green leaved forms come in more quickly—a feature that must not be ignored. If the Flanders, Viroflay, Victoria, or Round Summer Spinach and the dark green Longstander be sown together the last named will give a successional supply of leaves; if the variety grown under that name does not, and also produces pale green leaves, then it will not be true. The Chiswick trial has settled that fact, and also that many fanciful names are attached to the same variety of Spinach.

On two points, and perhaps only two, the members of the Committee of Examination were unanimous, namely, that there were four distinct types of Spinach in the collection, and that three marks of merit should be recorded for *Improved Round-leaved Prickly* (Watkins & Simpson), and for *Longstander* (Heineman), because it was a fine sample of this distinct Spinach, and correctly named, though the same variety was grown under other names.

A question then arose relative to the quality when cooked of this dark thick-leaved Spinach. The word passed round that it was not so good as the familiar clear green thin-leaved varieties, and a suspicion actually found utterance that it tasted like Tobacco. Fortunately the Committees of the R.H.S. include members who are equal to all emergencies, and as, luckily, one of these members said he was ill, and his doctor had ordered him to eat all the Spinach he could, and, furthermore, as the said member was not prejudiced in favour of Tobacco, he was considered to be a fit and proper person to test the qualities of the two types of Spinach, and

report in due course. He smiled approvingly, and it was suggested that a bushel of each be sent forthwith as a commencement, with an intimation that more might follow if he lived.

[He was alive on June 2nd, and supplied the following report:— "The two types of Spinach (1) the ordinary pale green thin-leaved as commonly grown in gardens under various names, and (2) the dwarfed and later Longstander (also grown under fanciful names), with very thick dark green leaves, were cooked under identical conditions, and served without any dressing to affect their flavour. As the quality of No. 2 was only in question it may be said that if the leaves had only been boiled the same length of time as is usual in cooking Spinach the quality must of necessity have been relatively inferior to that of the No. 1 type, but allowed four or five minutes longer the thick leaves became tender, and all who partook of the two samples pronounced in favour of No. 2 as being somewhat firmer, as well as possessing a more distinct yet agreeable and true Spinach flavour." The genuine Longstander Spinach is a Continental variety, the *Lent à Monter* of the French, with leaves not unlike those of a well-known variety of Tobacco; it is a valuable addition to our gardens, and cannot fail to be acceptable at table to that half of the world not composed of "haters" of this vegetable, when the cooks "do their duty."]

FILMY FERNS.

As Orchids have been aptly termed the aristocracy of flowering plants, so may, I think, these refined and elegant members of the great Fern family take equal rank in their own sphere. It is not necessary that the appellation in either case should cause the misapprehension of exclusiveness pertaining to their culture, for cool Orchids are now, practically, within the reach of all, and the simple wants of the Filmy Ferns place their culture within reach of plant lovers, although their comparative rarity bars the way to freer distribution. So while it is not likely that they will ever become common, it is not less certain that the charms of but a small specimen, or of the most modest collection, will always be appreciated. Few plants there are better able to ingratiate themselves with the amateur, whose principal pleasures spring from the pains of self-imposed labours.

The natural requirements of the Filmies are, indeed, such atmospheric conditions as reduce their care to a minimum, and when this is happily afforded by suitable environment in place of unremitting attention, which, in this case, never quite accomplishes the best results, we have here a class of plants specially commending themselves to notice.

He who is an amateur in the truer sense of the term as applied to gardening seldom cares to relegate love's labours to subordinate hands more than is absolutely necessary, and some there are who in the closer communion with the objects of their affection will not permit of any assistance, the best of which is jealously regarded as an infringement on their—an amateur's—rights. Then it may again be noticed how easily and well the Filmy Ferns fulfil these conditions. An eminent London surgeon was, some years since, one of the most successful cultivators of these gems of the Fern world. They were, I believe, the sole objects of his horticultural tastes and care, and there are few better suited, if properly accommodated, to fill in the little leisure of a busy man, coming, as it may, at irregular or prolonged intervals.

A Wardian case placed on a table in contiguity to a window facing due north is an ideal method and position for the more restricted culture of these plants; and though some of the more delicate varieties may, possibly, enjoy a little more warmth than is afforded by such quarters during severe frost, it is, I believe, preferable to that stewing process one now and again notices these plants subjected to by the orthodox gardener. But lately I saw some good examples of *Hymenophyllum demissum* and *Trichomanes radicans*, not to mention a few rarer kinds, growing in an unheated house, happy in their rockwork surroundings and the dim light of a darkened roof.

The most popular of these plants is probably the Killarney Fern, *Trichomanes radicans*, and though its popularity has all but entailed total extinction from its southern home in the Emerald Isle, its amenity to culture and comparatively free growth makes it fairly plentiful. In a suitable position it is, indeed, of freer growth than is often accredited to it. Under one instance of successful culture, where the end of a temperate house was shut off for its accommodation, it grew so luxuriantly that each alternate year it was replanted and nearly half the stock was a surplus for disposal. In this case nothing but fibrous peat, with large smooth pebbles interspersed, was the medium employed. One important point was duly regarded—that is, nothing but clean rain water was used, and that is one at least of the secrets of success in growing Filmy Ferns.

The rarer forms of *Trichomanes* and *Hymenophyllums* are well adapted to the Wardian case treatment either in the dwelling house, as previously described, or in the shady corner of a temperate plant house, but with the exception of the commoner British *H. tunbridgensis* and *H. Wilsoni*, easily procurable, they scarcely come within the scope of a brief article or any but the ultra enthusiast. Even with the better known *T. reniforme* it used to be valued at the rate of a guinea per frond (each frond is but little larger than the old spade guinea), and probably a good specimen is measureable by the same scale now.

Todea superba is undoubtedly the crowning glory of the Filmies in this section, and with its advent the older cultivated kinds seemed to suffer an eclipse. Be that as it may, a well grown specimen of this lovely Fern always commands admiration. A friend who has grown and studied the wants and whims, which are few, of this variety, concludes from experience that a too close atmosphere, even under perfectly cool treatment, is undesirable. The only difficulty under general good treatment appears to be in a browning of the fronds, more noticeable in some seasons than in others, and not attributable to insect pests. In one season particularly my friend was very unhappy in the behaviour of his plants and their rusty appearance. More air was given by keeping a door leading to another house always open, and this proved to be a simple but efficient remedy.

With all the Filmies frequent drenchings are not desirable, though, of course, anything approaching to drought must not be tolerated. An atmosphere charged with moisture, yet without stagnation, with sprinklings in moderation and according to weather, gives the happiest results, and when the first visit in the morning finds the plants naturally bedecked with drops of green-hued gold, beneficently supplied by atmospheric influence, our Filmies are in a fair way to thrive and yield that pleasure they are so well capable of doing.—FILICE.

LABURNUMS.

THE genus *Laburnum* was formerly included under *Cytisus*. *Laburnum* is the old Latin name used by Pliny. The genus comprises only three species of hardy, glabrous, or puberulous trees or shrubs, natives of Europe and Asia Minor.

L. vulgare, common *Laburnum* or Golden Chain, English; *Cytise des alpes*, French; *Bohnenbaum*, German, is the most well known and universally admired example. Loudon gives its native habitat as Switzerland, and the date of introduction 1596, exactly 300 years ago. "Nicholson's Dictionary of Gardening" assigns it as indigenous to Southern France to Hungary. It is quite at home in this country, and that at 500 feet above sea level, when fully exposed to the breezes that come across the North Sea or German Ocean. In town or country no tree can vie with this for beauty of yellow flowers in the early summer or during May. The simple, pendulous racemes are truly lovely, and in contrast with the pink and scarlet Thorns set off the outskirts of urban, suburban, and rural grounds or gardens to perfection. Its great advantage is that of growing almost anywhere, and doing well either as a dwarf or standard. Though flowering best when left to itself, it bears cutting to almost any extent, being as tractable as a bush Apple tree, and produces its racemes of flowers freely on the close spur system of pruning. In general contour it bears a close resemblance to the Scottish *Laburnum*, but is sparser in growth and usually grows the taller, sometimes attaining a height of 20 feet. The raceme of flowers is longer and thinner, pod clothed with hairs, upper suture thickened and keeled, but not winged, as in the pod of the Scottish *Laburnum*.

The seeds are decidedly poisonous, acting violently as purgative and emetic, but very few accidents occur either to man or cattle. In gardens and grounds danger would be prevented by removing the pods immediately they are formed, and the trees should certainly not be allowed within the reach of cattle. Dr. Emil Wolff, in "Aschen-Analysen," gives the following analyses:—

Constituents of the ash of *Laburnum vulgare*, syn. *Cytisus Laburnum*.

	Twigs and Branches.	Seeds.
Potash, K ₂ O	23.77	15.00
Soda, Na ₂ O	3.05	7.20
Lime, CaO	27.15	13.60
Magnesia, MgO	17.76	20.00
Iron, Fe ₂ O ₃	3.05	1.00
Phosphoric acid, P ₂ O ₅	16.74	33.60
Sulphuric acid, SO ₃	4.52	4.80
Silica, SiO ₂	3.96	1.40
Chlorine, Cl	—	3.40

The analyses give no idea as to the poisonous principle residing in the seeds, nor of the agent that renders the twigs injurious to cattle by their unfavourable action on the urinary organs of animals,

being similar to, but more pronounced than, common Broom (*Cytisus scoparius*). They tell us, however, what the Laburnums require in respect of soil—namely, calcareous gravel, on which the finest and most floriferous specimens are found, also on light loams and sandy soils.

Of the many varieties of the common Laburnum Watereri's (*L. v. Watereri*) is the best for length of raceme, depth of colour, and floriferousness. For growing in pots, training as an upright cordon, and bringing into flower by gentle forcing, there is nothing so charming as this in association with similar plants of *Wistaria chinensis*. Parkes' (*L. v. Parkesi*) also has very long racemes, and deeper coloured flowers than the type. The golden-leaved variety (*L. v. aureum*) is interesting, and so also is the weeping (*L. v. pendulum*).

L. alpinum, Alpine or Scottish Laburnum—This is the species usually met with in the North of England and in Scotland. It is a sturdier grower than the English, so-called; leaves large and glossy, flowers of a deeper yellow colour, and racemes sometimes quite as long or longer. It also blooms later, sometimes not till June. The pods of this species are shorter than those of the common species (*L. vulgare*), smooth, with distinctly winged upper suture. Loudon says this (*L. alpinum*) is the true Laburnum, whose timber (the false ebony of the French) is much prized by cabinet-makers and turners for its hardness, beauty of grain, and durability. It is sturdier in all its parts than the common Laburnum, and the branches are terete, as also are those of the latter species; but the bark is much darker in colour, that of the common Laburnum being whitish. The Scottish Laburnum is the hardiest, and does well almost everywhere.

Hares and rabbits are very fond of the bark of the Laburnum, and it is of no use attempting to grow the trees where rabbits and hares abound unless they are protected by wire netting around the stem. There is a variety of the Scottish Laburnum with fragrant flowers—namely, *L. a. fragrans*, and the weeping is frequently referred to this species. Indeed, the species *L. alpinum* and *L. vulgare* are so much alike, and so much mixed in nurseries, that one takes the place of the other and *vice versa*.

L. Adami, Adam's Laburnum.—This is the most singular of the genus. The tree is somewhat slender growing as compared with the other species, and more erect in habit. The dull purplish flowers, produced in long pendulous racemes, are anything but handsome, but when the head gets a good size, and there are parts in it that produce bright yellow racemes, it becomes very interesting. A most extraordinary thing in connection with this tree is the complete reversion of some parts of branches to one or other of the parents, it being said that this species is a graft hybrid raised by Jean Louis Adam by shield grafting *Cytisus purpureus* on *Laburnum vulgare*. Has anyone grafted a branch of the yellow form from *L. Adami* on the common Laburnum? and has this graft produced dull purplish racemes or *L. Adami* flowers?—G. ABBEY.

GARDENS ABOUT LONDON.

CAEN WOOD TOWERS.

THE northern suburbs of our vast metropolis have long been celebrated for their rural nature, of which Highgate Woods, Parliament Fields, and Hampstead Heath may be mentioned as typical examples, but no one even with a perfect knowledge of all the above places would expect to find at Highgate such an estate as Caen Wood Towers, the London home of Francis Reckitt, Esq. No more secluded, more reposeful, or, for its size, more beautiful home could be found within several miles in any direction from the modern Babylon, and yet it may be reached in less than one hour by 'bus and on foot from Charing Cross. In actual acreage the estate is of comparatively limited dimensions, covering, as it does, only about 14 acres of ground, of which the larger portion is pleasure gardens, greenhouses, and fruit and vegetable quarters, besides which there are one or two small meadows. Both Mr. and Mrs. Reckitt are lovers of all that is beautiful in Nature, and the grounds, carefully and intelligently tended by the head gardener, Mr. F. W. Burt, and his staff, are charming in their natural beauty.

About a month ago a visit was paid to Highgate, and many were the objects of interest found in the garden and in the views from the terraces of the mansion. Once within the entrance gates and London was for the time being forgotten—obliterated completely. No sound of the turmoil of hurrying London life fell on the ears—the music of the birds brought unexpected repose; no cloud of dust and smoke was there to irritate the sense of smell—the soothing fragrance of the flowers reigned in its stead; no soot-begrimed houses rose to fatigue the eyes—only trees and green fields met and refreshed the wondering and delighted vision. From a few enthusiastic words of approbation which fell from the lips of a man of wide travel we were prepared to find something exceptional, but not by any means for what was actually seen. Were we really standing within sound of Big Ben? was an involuntary ejaculation, and the listener did not appear at all surprised at the remark,

but inferred, in assuring us it really was so, that expressions of a similar nature were common from visitors at Caen Wood Towers. And we could well believe him.

In the gardens and in the landscape views the trees, bushes, and the grass were wearing their most beautiful garb—that of the spring. Each tender leaf, every blade of grass had a look of freshness that can only be seen in the early months of the year before the dust and other influences have exerted their power in rendering this early beauty all too transient, all too fleeting. But to do justice to the pastoral beauty it would require the brush of a Turner instead of the pen of the wandering horticulturist, and with the Turners of the present day we will leave it now to say a few words of the mansion, the gardens, and the glass houses. Not that we shall refer to all the occupants of the two latter, but to those only as appeared to be of more than ordinary merit, and such a task, where almost every phase of gardening that is attempted is done well, cannot be termed a light one. Nor is it claimed that each participator in the combination that makes the whole place so pleasant will get a full meed of praise; but to all concerned it will not be out of place even now, when we are still in the introductory stage, to offer congratulations on the many successes that have been so well achieved.

Of the handsome residence of Mr. Reckitt we have little to say, but instead we will let it speak for itself. The reproduction (fig. 83) from a photograph by Mr. W. A. Thompson of Highgate shows the entrance front from the gates, the other aspects being equally as attractive. It is a modern erection, substantially built, which was purchased by the present proprietor some few years ago on account of its beauty and the easy driving distance at which it is situated from London. The trees in the gardens are of singular beauty, and are seen in considerable numbers. There are handsome Limes, Elms, Poplars, Beeches, with several other kinds in excellent condition, and many of the specimens are very fine indeed. Then there are flowering trees in abundance, by far the more conspicuous at the time of this visit being a Siberian Crab, of which nothing but the trunk and the delicately hued blossoms were perceptible, and a Magnolia to be referred to. The Lilacs, Laburnums, and Thorns are well represented here and there about the grounds, in which evidences of formal gardening are the exception, and not, as is too often the case, the rule.

Rhododendrons, of which several were carrying trusses of fully expanded flowers, are a great feature, and the way they grow proves that situation and attention are alike entirely congenial. There are immense bushes, many feet in circumference, clothed with stout strong leaves, that with the already opened flowers spoke volumes for their condition. The plants are dotted about in positions to which they cannot but be ornaments. The lawns are very extensive, and entail a considerable amount of labour; but their soft springiness testifies to the attention they receive. Some portions had not yet been mown, it not being advisable to do so, owing to the hundreds of Daffodils that have from time to time been planted, and of which the foliage had not yet completely died down. These must have been very beautiful when they were in full flower, but unfortunately we were a little too late to see them. This is a system of Daffodil culture for which nothing but commendation can be found, even though it does result in the grass having to remain for a short period uncut, presenting to the hypercritical a certain element of untidiness.

The second illustration, taken at Caen Wood Towers by the same photographer, is, as all readers will see, of *Magnolia conspicua*, and it will be found in fig. 84, at page 517. Not so large perhaps as some that may be found, it is still a superb specimen of this beautiful plant. The spreading branches, touching the ground on each side, were clothed with flowers, and the position of planting had evidently been chosen with a view to ultimate artistic effect, and of a surety such is fully secured. From admiring the *Magnolia* we passed over smooth and undulating grass to a dell, wherein has been built a rockery with a brook at the base. Immense stones had been utilised in the construction, which was done under the orders of the former proprietor of the estate, and the results have not yet, and probably never will, justify the outlay. Leading from this is a woodland path of great natural beauty, such as the traveller would expect to find in the solitudes of Epping Forest instead of in a London garden. Here Nature holds the sceptre, man only coming as her assistant occasionally to keep the pathway open, or possibly it would soon become overgrown and impassable.

Of recent formation are two fine herbaceous borders, one on each side of a central path of good length. To permit of the utilisation of larger growing plants, such, for example, as Dahlias, the borders have been made of good width, and will, when their occupants have become thoroughly established, yield a practically unlimited supply of flowers for cutting, for which the demand is by no means small. Masses of each kind have been planted, and as the border has been well made the results should bring nothing but satisfaction. There are a few beds here and there on the lawns, but no attempt is made at formal gardening. As a consequence the beds occupied with simple flowers come quite as a refresher instead of wearying one by their monotony, as is unhappily sometimes the case. One bed, conspicuous almost immediately after passing the entrance gates, was stocked with the charming, rich, pink-hued Dutch Tulip *H. M. Stanley*. The remainder were filled with spring flowering plants, and presented a pleasing appearance. In our

wanderings we noticed a number of splendid Ivy-leaved Pelargoniums, whose ultimate destination was the beds and borders.

As may naturally be supposed Roses are great favourites here as almost everywhere else, and certainly they thrive as a true lover would wish them to do. The plants in the delightfully situated Rose garden are of exceptional vigour, and look as though they will produce some splendid flowers in the very near future. Not that exhibition is the goal aimed at; on the contrary the blooms are desired by Mrs. Reckitt for the adornment of the rooms of the mansion. As a result of this varieties have been selected which will, while providing flowers of good average quality, give them also in considerable numbers. The major portion of the plants are inserted in slightly raised beds, and a hard system of pruning is adopted, which has so far been conducive to excellent results. Of course there are Roses in other portions of the grounds, but it is in this particular spot that the main supplies of blooms are sought for, and, what is more, obtained.

Attached to the mansion is a very handsome conservatory, which is at all times kept as gay as possible with seasonable flowers, and as the

two dozen of the best flowers had been cut, were hanging some well formed blooms of splendid shape, substance, and delicious fragrance. In close proximity to this is a plant of Niphetos also in capital condition. To particularise all the plants grown would be of no interest to readers, but special mention must be made of the foliage plants for decoration, the Chrysanthemums, the Ferns, and the various kinds of bedding plants, all of which were in such condition as to prove the presence of a man who thoroughly understood their requirements at the head of affairs. Orchids, too, receive attention, and it is to be hoped that eventually a good stock of these plants will be secured, as it is practically certain, judging by the few now grown, that their extended culture would be followed by the most creditable results.

The fruit department under glass is, though not particularly extensive, one of the best managed, as the condition of the various kinds amply testifies. The Vines are particularly good, and the bunches of Grapes looked as if they would swell to perfection. The leafage, without being superabundant, is plentiful, and of splendid substance and texture; while the main rods and laterals are as clean as anyone could possibly wish to see. Peaches, too, are admirably grown, and



FIG. 83.—CAEN WOOD TOWERS.

plants do not, as a rule, last very long in the lofty structure change is ever in progression. The house has one long central path leading from the dining-room through to the other greenhouses, and with the exception of a row of handsome Tree Ferns in tubs down the centre, all the arrangements have to be done on the side stages. Azaleas formed the greater part of the display when we had the pleasure of a look through, and very beautiful they looked. Some of the plants were several feet high and through, and all, large and small alike, were full of flowers. The form of training was neat without being stiff, or the display would probably have been less effective. Interspersed amongst the Azaleas were several Palms and Ferns, and the placing of them so as to insure the best possible effect, left little room for criticism. From one corner of the dining-room, through a narrow window, a peep is got into a refreshingly cool looking fernery, a later search for the door of which was absolutely fruitless. We afterwards learned that ingress was gained through a trap-door in the floor. The Ferns, especially Maidenhairs, were in splendid condition.

In the greenhouses and stoves the plants are of all kinds and sizes; but those, such as tuberous Begonias, Marguerites, and Zonal Pelargoniums, which are particularly showy, each occupy a goodly amount of space. On one of the greenhouse roofs is a grand plant of Maréchal Niel Rose, on which, despite the fact that just previously to our advent

despite all the "Sceptic"—of whom, by the way, we have heard little of late—has said in the *Journal of Horticulture*, Mr. Burt is still a believer in ripened wood. He has tried "Sceptic's" system, and almost absolute failure has occurred. There are the plants side by side. The one carrying a full crop, and the other only bearing one or two small specimens that are not worthy the name of fruits. Hardy fruits are not neglected for the sake of those under glass, and all kinds are in excellent condition. The trees and bushes are clean and healthy, and from the blossom they bore should produce handsome crops of fruit; but they must, with everything else, be needing rain badly by now.

The vegetable garden appeared to us to be of very limited dimensions when the requirements of the establishment are considered, but like all true gardeners Mr. Burt is doing his very best with the resources at his command. Though not actually occupied a month ago, every part of the available space was allotted out to the various crops in varying extents according to their popularity and utility, and the ground had all been thoroughly prepared for plants and seeds at the proper time. Mechanical work had played its all-important part, with the result that the soil was in splendid condition. A few crops, of course, were in the ground, and all without exception looked remarkably well. Cucumbers and Tomatoes claim a good portion of the space under glass,

and plants of the former were carrying long, straight, young fruits that ought to be excellent eating. Of Tomatoes a large supply is wanted, and to meet it succession sowings of seeds are made, and sturdy plants raised by the score. Some were only just through the soil, while others were in large pots, so that all being well there will be plenty of fruit for some time to come.

In conclusion we would draw attention to the neatness and cleanliness that are everywhere so apparent. The walks are all alike clean and well kept, while of the lawns mention has already been made. On the plants and fruits under glass there was the happiest possible dearth of insect pests, which alone speaks well for the attention that is bestowed on all of them. Our visit to Caen Wood Towers was a most enjoyable one, thanks to the kindness and courtesy of Mr. Reckitt, and to the trouble taken by Mr. Burt in showing us all that there was to be seen on this beautiful London estate.—H. J. WRIGHT.

HARDY FLOWER NOTES.

THE garden is at the moment of writing the source of both hope and fear. The clouds have not yet given us enough moisture for the plants which so eagerly desire it at this season, and the little rain which fell was soon absorbed by a high north wind, which not only licked it up as by fire, but shattered and disfigured several fair flowers. We look many times a day at the barometer to see if it will tell of a coming change, of which the skies and weather signs of the country give no warning as yet. Welcome will be the change, for on our light soil many of the taller flowers show signs of distress. Watering all is impossible, and it is reserved for some parts of the garden, where it is thoroughly done. Still, these signs of distress are apparent in drooping and yellowing leaves and dwarfer growth with smaller blooms.

The Pyrethrums, which add so much to the garden's beauty in the end of May and the beginning of June, droop their leaves in the glare of the sun, and give us smaller flowers than those with which they are wont to delight us. The Delphiniums feel the drought too, and show by their flagging lower leaves and by their weaker spikes, which seem at a standstill, that they long for more of that element so necessary to vegetable life. Yet though these things sadden us, and give us fear lest that beauty is doomed to an untimely end, we cannot but think of the joy given by so many other flowers which shine from the rock-garden's slopes or from the dust-dry border give brightness and grace of form. So let us in the present forget our fears, and for the time the toil of watering, and think of the flowers now giving the garden its charm.

The Dianthus or Flower of Jove is in its various species and their varieties one of the most valuable of all flowers. The many charming double Pinks, now in bloom, and the splendid and delightful Carnations and Picotees are sufficient to attest this, even were we without the many beautiful Dianthi which have been transported from their native mountains in order that our gardens may be full of gem-like beauty. These little Mountain Pinks, in many cases at least, are small and unobtrusive in stature, but make up for this by bearing flowers of great size as compared with the height of their stems. Such is the case with *Dianthus glacialis*, the Glacial or Glacier Pink, which is one of the most prized of our alpine flowers, and viewed with delight by all lovers of flowers who are not wedded to the tassel-like blooms of the double-flowered ones. It shares with *D. alpinus*, *D. neglectus*, and one or two others the honour of being indispensable in the alpine garden. It is difficult to tell of its charms through the medium of pen and ink, and one must essay it feeling all the time that a look at a plant in flower is worth twenty descriptions such as may be penned.

A good plant forms a little hillock of compact habit with darker green and less spiny leaves than those of *D. neglectus*. It differs also from *D. alpinus* and *D. neglectus* in not forming running shoots below the surface, as is done by these species. The plant when in flower is only from 2 to 3 inches high, and the single bright rose-coloured flowers are sometimes an inch and a quarter across. It comes from the eastern Alps of Europe, being found from the Canton Grisons to Transylvania, and occurs on the granite at a height of from about 5700 to 7500 feet. Hænke is the authority for the name. In its native habitats it is said to flower in July and August, but in this country flowers much earlier. It will grow in the flower border, but is more likely to be protected from being overgrown by other plants if planted upon the flat terrace of a rockery facing south or west, and in a good loam with the addition of some granite grit. It ripens seed freely, and may also be increased by means of division.

June may well be called a month of Irises, although this year some of the June bloomers have taken time by the forelock and

greeted May with their beauty instead of smiling only upon the "leafy month." Amid the wealth of these charming flowers it is difficult to select one, and, even at the risk of leaving more attractive ones unspoken of, I take for the subject of this note one which is very moderate in price, and is well adapted for growing as a semi-aquatic or, if so desired, in a dry border. This is *I. versicolor*, a variable species, and the common Iris of a great part of North America, from the Northern United States northward to Hudson's Bay. It is a little stiff in appearance, but is, nevertheless, pretty and interesting enough to be looked upon with pleasure. I am always diffident about describing the colours of Irises above all flowers, and as the flowers of this species change from day to day it is more difficult to tell of its colouring. Mr. J. G. Baker describes the type as having a claret-purple limb and "the claw veined with purple on a yellowish white ground;" but the descriptions given by some of the specialists in Irises are good enough, though concise. Thus we have varieties with lilac standards and falls, with red-lilac standards and falls, and others with various falls and spots.

My representative of the species came from a generous correspondent in the United States, and has lilac purple standards and falls. *I. versicolor* grows about 3 feet high in a moist situation, but in a dry border of light soil will only reach about 2 feet, although it will flower freely in such even in full sun, which I find suits Irises better in my garden than any other aspect. A pretty variety of *I. versicolor* is figured in "Maund's Botanic Garden," but the height the author gives is only 15 inches.

There is here an attractive little Alpine Wallflower which I got some time ago under the name of *Cheiranthus versicolor*, but which is also grown as *C. Dilleni*. So far as I can ascertain it is really *C. mutabilis*, which was introduced from Madeira in 1777. A little bush of it on one of the terraces of a rockery facing south and west, and protected from the north wind by a greenhouse a few yards away, has been very attractive for a good while. It is aptly enough named the Changing Wallflower, as its flowers change very much from first opening. I have just gone into the garden to look at it again, and I hardly think the description of the colouring given in a good work of reference suits my plant. This description is, "At first cream-coloured, afterwards becoming purple or striped." The colour of the flower on first opening is a clear light yellow, certainly deeper than "cream," and this becomes paler but striped with brownish stripes, which increase in width with age. It forms a dwarf shrubby plant in poor soils, where it is fairly hardy if well sheltered. It is not to be depended on in cold districts, and, like *C. Marshalli*, should have a poor stony or gravelly soil. It is readily increased by means of cuttings, and it is desirable to keep a spare plant in a cold greenhouse or frame.

The introduction of the grand new *Hemerocallis aurantiaca* major is likely to attract increased attention to the beauty of the several Day Lilies now in cultivation. Some of these are very beautiful with their long Iris-like leaves and their rather ephemeral flowers, which, by their fleeting beauty, show how appropriate is the generic name, derived from *hemero* (a day) and *kallos* (beauty). One feature which partly compensates for the short-lived beauty of the flowers is the abundant succession with which they are produced. There is a pretty dwarf-growing one in my garden which is *H. Dumortieri*, but which sometimes does duty under the name of *H. Middendorfi*, and is even sold as *H. graminea*. *H. Middendorfi* does not appear in the "Kew Hand List," but the description of this plant resembles that known at Kew as *H. Thunbergi*, and the true name of *H. graminea* appears to be now recognised as *H. minor*.

H. Dumortieri is said to be synonymous with *H. rutilans* and *H. Sieboldi*. *Dumortier's* Day Lily does not seem to be so ephemeral in its flowering as the most of the others, and has suffered very little from the dry weather. The flowers are large in size and are of a bright orange yellow tinged with brown on the outside, which has the effect of giving a deeper effect to the colour. It only grows from 12 to 18 inches in height, and can be grown in ordinary soil in the border. It comes from Japan and Eastern Siberia. A passing remark that a plant being sold as *Hemerocallis alba* is not a *Hemerocallis*, but *Funkia subcordata*, may be of service to some. One of my friends was unfortunate enough to pay a good price for a "White Day Lily" only to find to his disgust that it was a Plantain Lily he already possessed.

The cool of the evening has come on and the flowers, which seemed weary of the hot sun and the want of moisture, now look rested and refreshed. There are many of them now, and a stroll among them ere the long daylight comes to an end reveals much to admire. On the rockeries the charming Daisy-like flowers of *Olearia stellulata* are crowded on the little bushes, whose leaves they strive to cover. Old-fashioned Snapdragons grow happily beside flowers from other lands, which have been too short a time

in our British isles to have acquired an English name. The Lancastrian Geranium is covered with its flesh coloured purple veined flowers, while near the splendid Catchfly rears its double crimson blooms.

Saxifrages and Thrifts, Sun Roses and Rock Roses, Stonecrops and Pinks, with many other flowers, uphold the claims of the rock garden to notice when the borders are aglow with Poppies and bright with Irises, Pyrethrums and Pæonies. The old-fashioned Columbines have not yet departed either, and there are Mule Pinks and Border Pinks, Geraniums, Cornflowers, Violas, Trolliuses, Veronicas, Lychnises, and other perennials, while self-sown annuals seek to hold their own among their longer lived rivals. Among all is the beauty of the Rose, whose queenly charms yield not to the Lily's loveliness now beginning to attract our rejoicing eyes.—S. ARNOTT.

IRISH NOTES.

"VERY fine weather," has been so common a greeting that it is becoming monotonous, I think, to all, and with the gardening and farming fraternity the anxiety increases daily for a change. Lavishly has the hand of Flora decked the landscape around Dublin, and although we may not claim exceptional sights or scenes in this respect, the Thorn is undoubtedly a feature of the locality from the legion of brave old trees arrayed in the Phoenix Park to the miles of hedgerows radiating through the surrounding country. The theme is too common to dwell upon, yet the feeling obtains that we have this year seen the Hawthorn in perfection, undisturbed by atmospheric influences, from the gradual laying on of pearly white ere April went out to the heavy wreaths, red tinted, and fast dying off with the latter days of May.

In spite of a grievance pertaining to the cutting off of our rain supplies, we, in this neighbourhood, should have some grateful recollections of the departed month, for although several nights went perilously near to freezing point, and two at least descended to the danger side, no tender tops were nipped or embryo fruits damaged. Potatoes and even French Beans under field culture showed no ill effects, and no better criterion than these could demarcate the line of safety. Farther from the sea less favourable accounts were to hand. From Straffan, co. Kildare, came the report 4° of frost on the 20th, and the question was broached, "Why is the 20th of May so ill-behaved?" It is unanswerable, but there may be some small consolation that the 4° was not 10°, which has more than once been a cruel blow to the high-class gardening as practised there.

Temporary duties called me to make daily journeyings of a dozen miles, and afforded facility for comparing the effects of the spring drought over that area. Limited as it is the effects are varied and distinctly noticeable. Here, on the limestone, there is a freshness and verdure one misses on approaching the city. Havoc is being wrought amongst newly planted shrubs on the sloping banks bounding the People's Gardens in the Phoenix Park. Apart from this some recent alterations, whereby peeps through the shrubbery bounding these charming gardens are afforded, is a happy thought. Even in the College gardens the beggar's petition for a small floral contribution to a charitable object elicited the remark "We were never so short of flowers at this season," but the beggar was not sent empty away.

Certainly never was a richer display of foliage in evidence from stately Fergus dotted on the lawn to the grateful umbrageous heads of common and uncommon trees. Very handsome is a large weeping Beech, and a finely cut-leaved variety is so unlike the type in its general character as to be difficult of recognition until the chief points to one branch reverted to the original, "original sin" he calls it. Later on in the day I was pleased to see and admire "Barr's" handsome "Daffodil cup," perhaps there was some remote connection with the present drought in noting that it bore the stains of its christening libation.

As with the more showy things that have adorned the landscapes this departing spring, so with a multitude of trees that in flowering may in average seasons pass unnoticed. Not so this year. Oak, Ash, Beech, Elm, everything in fact, conspicuously laden with bloom. However, the legendary rhyme concerning the leafage of the Oak and the Ash may be affected by subsequent events, the Oak distinctly took precedence this year. My friend, who is not oblivious to the luxuriance of the scenery around us (what gardener could be?) takes a more practical view, and likes things that pay. He has them, too, in a heavy crop of ripening Tomatoes, returning to him the present market value of 1s. 4d. per lb. One penny per ounce is not a bad return for even such luscious, smooth, round fruit as he now sends to the city. The Tomato here, as elsewhere, is duly appreciated, and is one of those things which "pay" at all seasons. Not so, unfortunately, with many

things. A thousand imported Spiræas, potted, forced, and grown into handsome, well-flowered plants, do not pay at 5s. per dozen. Too cheap, when the bulk of them are *S. astilboides* and *S. multiflora compacta*. These two varieties bid fair to displace the commoner *S. japonica*. *S. astilboides*, as a forced plant, cannot be over-praised, though naturally grown in the borders it is, in comparison with its elongation under glass, but a poor thing.

Forced Strawberries up to the middle of May were appreciated in Dublin to the extent of 10s. per pound, but the mild open winter placed all vegetables for sale at a discount, although the glut is likely to be followed by immediate scarcity, even a famine, should the drought continue. Field Strawberries in the neighbourhood only lack moisture to yield abundance; failing that they, with other small fruits, will show but poor returns. A grower in the vicinity picked his first basket on the 28th inst.

One perhaps hardly realises what an early season this is, so imperceptibly yet persistently have the solar rays daily increased in power, culminating now in real July heat—July as it should be, not as we often experience it. The heat has been irresistible to Roses on the walls; Dijons have blown out as flat as saucers and nearly as large. How will other Roses respect the scheduled time for exhibiting when such time is fixed well into July? Present appearances lead to the conclusion that the bulk of them will be "faded and gone." Herds of aphides feed and fatten on all sorts of juicy sapling growth. It is a record season for the tribe. Even through the woods, where acres of Meadowsweet (*Spiræa*) have sprung through a faded carpet of the Wood Anemones, one notices how the tender tops are roped with the pests.

How glorious were the aforesaid Anemones over a long period, stretching far away in broken patches under the trees. In damp spots tufts of emerald green foliage disclosed the modest drooping blooms of *Oxalis acetosella*. Both of these in blossom, white though they be, have a warmer greeting to the eye than the severely chaste Snowdrop. The latter tells of the coming spring, the Anemone of its arrival. Growth on coniferous trees appears for the season to be almost phenomenal, many of that ilk having apparently all but made their annual growth.

Jackdaws watch the earliest Peas under field culture as the pods are filling; and the busy man—armed—watches the Jackdaws, lest they should do a little filling on their own account, for that won't "pay." To sum up the characteristics of the passing spring from local observation, it has been very fine—too fine; and one may repeat the oft-quoted saying, that "it's a pity fine weather should do harm." Some at least are consoled by the reflection of prospective high prices for the hay crop, and one prophesies, as we daily exchange opinions on the weather, that it will begin to rain when he commences to cut his meadows.—K, Dublin.

MR. HORNER'S GARDEN.

(Concluded from page 495.)

THAT part of the public in any way interested in florists' flowers may have noticed that Mr. Horner's success at the Southern show was mainly due to the fact that ten varieties in his leading stand of twelve Auriculas were his own seedlings. No higher testimony is needed of his success as a raiser; but few realise the necessity of the patience, perseverance, and sound judgment, added to that knowledge which must be self-acquired from experience in the science—in attaining success as far-reaching as Mr. Horner's has been. The florists' standard of the Auricula is an exceedingly high one, involving nearly mathematical precision in the proportions of tube, paste, ground colour, and edge; yet being fortunate to secure these properties, to them must be added perfect roundness of pip and smoothness of its edge, combined with flatness, which give reposefulness, the great charm of the flower, but if wanting destroys both harmony and proportions. Even when seed-bearing parents combining the greatest number of good points are selected, and having due regard to their class colours, the natural law of variation, whilst serving the cross-breeder's purpose in the evolution of a more perfect type, it also takes effect with extraordinary force in degeneracy or reversion towards the original type.

Whilst the former is often slow and tedious, passing through generation after generation of steady improvement, in the case of reversion we find that by a single bound backwards over many generations individual seedlings appear scarcely differing in any characteristic from the original yellow type of the species, whilst all degrees and conditions between the highest and lowest types put in an appearance, which are year after year consigned to the rubbish heap as being of themselves worthless, yet to the cross-breeder conveying lessons for future guidance which could not otherwise be acquired. Mr. Horner somehow manages to assimilate the soundest knowledge from his cultural experiences, and he is at all times delighted to exchange ideas upon any matter bearing upon his own experience and practice. In reference to the question of raising seedling Auriculas, he has found that those seedlings which first appear above the soil are the least to be relied upon in the production of improved forms, which goes far in proving that constitutional characteristic embodying that state approaching the greatest natural vigour

has to be as it were tamed down before any marked improvement, from the florists' point of view, can be achieved.

On this point Mr. Horner laid especial stress, and he thinks that new beginners' disappointments in seedling raising are often due to the selection of these vigorous seedlings because they are more taking than the weaker ones, which require more time to develop their germinating energies. Primulaceæ are notably erratic in their germinating power generally. A pan of Auricula seed of the same age, sown under the same conditions, will continue to produce seedlings into the second year after sowing. A general knowledge of these facts, if put into practice, would no doubt greatly facilitate the evolution of better types of other flowers, were the later and less vigorous seedlings selected for cultivation.

The pink self alluded to by Mr. Horner (on page 414), by reason of their novelty and distinct colour, add an additional charm to the collection, their warmer tones contrasting effectively with the sober greens and greys of the florists' types, besides giving a wider range of colour to the somewhat limited one amongst Auriculas, which if extended would probably give an impetus to the cultivation of the plant.

The stages of two houses were filled with plants in flower, forming a beautiful exhibition, distinct in character from the more gay occupants of the ordinary conservatory of the period, but none the less interesting, because a closer investigation is needed to enjoy their more modest beauty. But what most forcibly appeals to our admiration is the marvellous evolution of the flower in its (nearly) perfection to the ideal in proportions and development of rich colours, as compared to its dingy yellow prototype, thus affording a greater treat to the contemplative mind than can be realised out of the beauty of most other cultivated flowers, but nearer approaching to Nature's unassisted handiwork. It would be useless making a simple catalogue of names. Mr. Horner's collection consists of the very cream of other raisers, but of course his own seedlings give a distinct tone and character to the collection.

In a discussion with Mr. Horner on varieties past and present, out of a catalogue of upwards of one hundred varieties, about one-sixth only of that number was now considered worthy of a place alongside of more recent varieties raised by other growers, and himself. This fact speaks eloquently of the sure and steady improvement of the flower, and should be a warning to new beginners in the selection of varieties if they are ambitious to try their strength on the exhibition table. In drawing these remarks to a conclusion much that is interesting in Mr. Horner's garden must perforce remain at present unwritten, at the same time we feel that any written description of it and its contents must of necessity fail to adequately convey anything like a just tribute to the results of work which can only be the outcome of the purest love for it, but work all the same carrying the impress of his own personality and genius which will prove a standing monument for generations of florists yet to come.—AZOTA.

LATE VINERIES.

IT is impossible to over-estimate the importance in almost all establishments of providing a good crop of fruit in the structures that come under the category of late vineries. Taking this into consideration, it is possible that a few notes on Vines grown especially for affording late fruits, and touching the work amongst them that is now seasonable, may be of use and assistance to some of the many readers of the *Journal of Horticulture*, if only as refreshers of the memory.

Thinning is of the utmost importance, and there must be no delay in carrying out the operation. Gros Colman, Gros Guillaume, and Trebbiano have the berries so pronounced, and are so free-setting, that they may have, what would be the worst if left, taken out and the thinning completed whilst they are in flower. This secures all the swelling possible in those that are left, and the berries attain to an enormous size if care is taken to leave no more than can swell properly. They should not be less than an inch asunder, and Gros Colman, also Gros Guillaume, not large bunches, often need to be $1\frac{1}{4}$ to $1\frac{1}{2}$ inch apart, as they have berries in proportion to the size of the bunches and number on the Vine.

It is also a good practice to go over varieties that are thickly set with flowers, whilst the latter are in the cap state, and cut out at least one-half. It helps Lady Downe's, Mrs. Pince, and Alnwick Seedling to set if the precaution is taken to cut out the flowers that are weakest and have the thinnest footstalks and smallest "caps." This may also be practised with varieties that set many more berries than there is room for swelling to full size. These are tedious processes, but necessary in order to secure the largest and most highly finished berries. The thinning of the shy-setting varieties should be deferred until it is seen which berries are properly fertilised by their taking the lead in swelling.

Bunch-thinning should have early attention, reducing them to the number which their size and the condition of the Vines warrant as likely to finish satisfactorily. One pound of Grapes per foot of rod is a fair crop, but the distance varies; therefore 1 lb. to every 3 feet superficial of foliage exposed to every ray of sunshine is a full, but with proper feeding not an overburdening crop. Regard, however, must be had to the variety. Muscat of Alexandria will not produce anything like the same weight of Grapes as Gros Colman on an equal spread of Vine. To get quality the Vines must not be overcropped, for such never finish the Grapes well, and the latter keep very indifferently.

Late Vines are gross feeders, and require abundant supplies of water, with liquid manure or surface dressing washed in to carry full crops to perfection. It is hardly possible to overwater inside borders that are well drained. A 4-gallon watering potful per square yard once a week will be necessary in bright weather where the Vines have a good run of border, and twice as much where the root space is limited to a small area. Outside borders must not be neglected for watering, feeding, and mulching; the latter will help to enrich the soil, and retain the moisture of the border.

If the weather is cold fires will be necessary to keep the Vines in steady progress. All late Grapes, except late Hamburgs, thrive best in a high temperature with plenty of atmospheric moisture. The thing is to admit a little air early in the day, and a chink at the top of the house constantly, increasing the ventilation with the temperature, yet getting 85° or 90° from sun heat through the day, and before the temperature declines to 80° closing the house and damping every available surface, repeating this before nightfall. Admit a little air to allow the vitiated atmosphere to change, employing fire heat to maintain a night temperature of 60° to 65°, and 70° to 75° by day.

In regulating the growth allow as much foliage as can have full exposure to light, but all of it should not be made at once; that is, do not allow the laterals or extensions to advance to the limits before curtailing them, for to do so, and then have the sub-laterals springing from every leaf base, means an excess of foliage that is not beneficial, but harmful. Leave a little room for lateral extension, as this causes fresh roots to be made, and keeps up that activity so essential for the perfecting of the crops.—OLD HAND.

FORGET-ME-NOTS FOR SPRING GARDENING.

VERY common is it for cultivators and admiring on-lookers to descant on the merits of these charming spring flowers when the beds and borders are made gay with them in their blooming period. When it is seen how effective they are many owners of gardens who have them not decide upon procuring them. That is one period when we hear much of the merits of Forget-me-nots, and the next period is in the autumn when summer flowers are waning, and when something must be found to take their place. But between these two periods these beautiful hardy spring flowers are seldom noticed; probably because summer flowers then absorb attention. Yet the period when Forget-me-nots are not to be seen—just after they have done their work and the plants are removed from the beds—is the most important of all times at which to direct attention to the usefulness of this attractive family of plants.

To enjoy them in fullest beauty in the early months of spring we must commence our preparations at midsummer. Because this is a busy period attention to these plants is too often postponed—preparations are commenced too late, and the plants are small in the autumn, and the bloom in the beds in the spring both late and unsatisfying.

If the seed is sown late the bloom is both late and weakly, and this is the position of, perhaps, nine-tenths of those who attempt to grow Forget-me-nots. Even in gardens where spring flowers are really desired and are specially welcomed, the practice is common to dib-in small plants from seed which had been sown late, and which is not doing justice to the plants themselves, and is also calculated to bring spring gardening into disrepute.

The few who grow these plants in the finest perfection in the spring are at the present time sowing the seed or dividing the plants. It is only by sowing the seed now that good plants can be had in the autumn of a size sufficient to produce an early and a fine display in the spring. Instead of the small seedlings which are set with the dibber we must have dense stocky plants 6 inches in diameter, and which will take up with a ball that can hardly be crammed into a 5-inch pot. Those are the plants to satisfy either for indoor or outdoor decoration. It is impossible to have them by the too common mode of seed-sowing in August. Such plants can be had by sowing the seed at the present time.

Take, for instance, the *Myosotis dissitiflora*, and what have we more attractive for indoor decoration in February and March, and for garden decoration in April and May, than well grown plants of this fine Forget-me-not? Hardly anything can be more charming; but late sown and weakly grown plants are always disappointing. Whether *M. arvensis*, *M. sylvatica*, with their white varieties are used, or the best of all the blues, *M. dissitiflora*, the seed must be sown at the present time. A moist shady border is the best place where to sow the seed and also to prick out the plants to grow until they are required for the beds.

A portion of these plants if potted and placed in a light greenhouse will make a beautiful display in the early days of spring. Plants which have bloomed may also be cut down and divided. If in a moist place they grow rapidly, and should be again divided towards the autumn, for very large plants do not flower well, as the central crowns are apt to be weak. But whether by root division or by seed, it is an easy matter for all who choose to do so to have a supply of these charming spring flowering plants in the best condition, provided the work of preparation is commenced at once.

Seed-sowing in June, a cool place for growth in the summer, with room for each plant to develop itself and an abundance of water at all times, and especially as the flowering period approaches, are the principal requirements to have Forget-me-nots in perfection.—J. CLAPHAM.



EVENTS OF THE WEEK.—The only event of any importance next week is the meeting of the Committees of the Royal Horticultural Society, which takes place on Tuesday next at the Drill Hall, Westminster.

WEATHER IN LONDON.—Almost unclouded skies have prevailed during the week, and the prolonged drought is becoming serious. The deficiency during April and May, from the average of the corresponding months during ten years, 1880–9, amounts to nearly 300 tons an acre. A welcome shower, however, fell on Wednesday morning, and more rain is earnestly hoped for.

WEATHER IN THE NORTH.—With an occasional slight appearance of rain the drought continued severe during the week ending Tuesday morning till the evening of Monday, when it appeared to be giving way. Rain was falling on Tuesday morning, and the indications pointed to its continuance.—B. D., *S. Perthshire*.

VEITCH MEDALS.—The presentation will take place at the Drill Hall on Tuesday, June 9th, at 3 P.M., by Sir Trevor Lawrence, Bart., President of the Royal Horticultural Society. The recipients this year are M. Henri L. de Vilmorin, Paris; Professor Sargent, Boston, U.S.A.; Mr. F. W. Burbidge, Trinity College Botanic Garden, Dublin; and Mr. Malcolm Dunn, the Palace Gardens, Dalkeith.

ROYAL HORTICULTURAL SOCIETY.—The next Fruit and Floral meeting will be held in the Drill Hall, James Street, Victoria Street, on Tuesday, June 9th. At 3 P.M. the Rev. Professor Henslow will give a lecture on "The Movements of Plants," illustrated by magic lantern.

CHESTER HORTICULTURAL SHOW AND FÊTE.—A free horticultural conference in connection with the above will be held at Chester on the eve of the show (August 4th) under the Presidency of the Duke of Westminster. Papers relative to "The History of the Royal Horticultural Society of England," "Garden Craft," and the literature of horticulture, will be read by Sir Trevor Lawrence, the Dean of Rochester, and F. W. Burbidge, Esq., respectively.

GRAPES SCALDING.—Although Black Hamburgs are sometimes scorched when the berries are exposed to the direct rays of the sun, they are not nearly so subject to scalding as are Muscat of Alexandria and Lady Downe's in the later stages of stoning. In the case of Black Hamburgs a good spread of foliage is an excellent precaution, with air in the early part of the day. In the case of Muscat of Alexandria a slight shade is an advantage, especially where the panes of glass are large and the ventilation not over-abundantly provided for. The only safeguard is careful treatment in the later stages of stoning, air being admitted more freely for a fortnight or three weeks until colouring commences, when all danger will be over; indeed, a bountiful supply of air by day and a little ventilation constantly at the upper part of the house, with a genial warmth in the hot-water pipes, are the surest means of avoiding scalding in Grapes.—A. S. A.

ROYAL BOTANIC SOCIETY.—A meeting of the Fellows of the Royal Botanic Society was held at the Society's headquarters, Regent's Park, last Saturday afternoon. Major Cotton presided, and amongst others present were the Duke of Teck, the Marquis of Bute, Earl Annesley, the Marquis of Bristol, Sir E. H. Galsworthy, and Mr. St. George Mivart. Mr. J. S. Rubenstein proposed that the Council give, as an experiment, musical promenades on six consecutive Saturday afternoons, commencing June 13th next, to be open to the public on payment of a shilling, twenty-three Fellows having agreed to guarantee £5 each against the risk of any loss. He said that on a previous occasion when he submitted a similar proposition the Fellows were decidedly against an innovation, believing that the finances of the Society could not bear the strain of the initial outlay. This difficulty he was pleased to say had been removed through the kindness of a number of Fellows coming forward and agreeing to give guarantee against the risk of any loss to the Society. Sir E. H. Galsworthy seconded the motion, which, having been supported by the Marquis of Bute and the Marquis of Bristol, was carried unanimously.

GARDENING APPOINTMENT.—Mr. T. Lewis, for the past two years gardener at Ribbey Hall, Kirkham, has been appointed gardener to C. Eastwick Field, Esq., Hurst House, Midhurst, Sussex.

BY permission of the Benchers, the Inner Temple Gardens will be open every evening up to the end of August from six o'clock until dusk. The privilege is intended especially for the benefit of the poor children of the surrounding densely populated districts.

PANSIES FROM STEVENAGE.—Messrs. Young & Dobinson, Holmesdale Nurseries, Stevenage, forward flowers to illustrate their strain of Pansies. The flowers are of good size, and cover a wide range of colour. This firm is also responsible for the sooty Viola, Stevenage Sweep.

EARLY STRAWBERRIES.—I herewith send you two fruits of Strawberry Emperor William, picked this morning, May 29th. I think this is the earliest picking from outdoor-grown plants on record, and must show that the variety named is the first fruiting kind we possess by far.—H. CANNELL. [Under whatever conditions they were grown they were ripe, and in appearance somewhat resembled Vicomtesse Hericart de Thury. We shall be glad to publish other notes on early ripening Strawberries that may be sent to us.]

THE POPE'S GARDEN.—At twelve the present Pope takes his simple repast, after which he is carried in a portantina of red silk, by two bearers, into the garden, where he enters his carriage and drives down the alleys of Oak and Ilex trees, escorted by an officer of the Noble Guards and two gendarmes. His Holiness inspects the fine vineyard, in which he takes more real interest than in all the marbles of the Vatican, and which yearly yields 8000 litres of excellent wine. The principal relaxation of His Holiness consists in cultivating Tea Roses.

THE NATIONAL AMATEUR GARDENERS' ASSOCIATION.—Ferns, and British Ferns in particular, were the chief attraction at the meeting of this Association held at the Memorial Hall on Tuesday, 2nd June. Mr. George Gordon, F.R.H.S., gave a most interesting lecture on "British Ferns," and the members had been specially asked to bring up specimens to serve as illustrations of the lecturer's remarks. The result was an exceedingly fine collection of the best varieties of the cultivated forms of the native species. Some fine groups of British Ferns were staged for Messrs. Fenlon's special prize, which was won by Mr. Vokes of Southampton. For the prizes offered by Col. Halford Thompson for Ferns grown in Jadoo fibre there was a good competition, and the fine specimens denoted how suitable that material is for them. Mr. A. J. Rowberry staged, not for competition, a large collection of Violas, comprised chiefly of seedlings raised by the exhibitor. On Saturday, 30th May, the members visited the beautiful garden of Mr. A. H. Smec at Wallington. A large party took advantage of the opportunity to see these noted grounds, and thoroughly appreciated the privilege so kindly extended to them by Mr. Smee.

AWARDS AT OLYMPIA SHOW.—As was stated in our last issue (page 499) space could not be found for the publication of the medals adjudged to the various exhibitors, and consequently a list is appended herewith. Messrs. J. Carter & Co., silver medal for Gloxinias; W. Howe, large silver medal for Ferns; silver-gilt medal for Dracenas, and a small silver medal for Crotons; H. B. May, gold medal for Ferns; J. Meads, silver medal for Melons; A. Waterer, silver medal for Rhododendrons; H. J. Jones, large silver medal for cut decorative Pelargoniums; large silver medal for bunches of Zonal Pelargoniums, and a silver-gilt medal for a group; J. Carter & Co., silver medal for Calceolarias; J. Laing and Sons, large silver medal for Conifers; W. Cragg, large silver medal for Orchids; C. Turner, large silver medal for Pelargoniums; B. S. Williams and Son, silver-gilt medal for a group; J. Laing & Sons, gold medal for a group; H. Low & Co., silver-gilt medal for Orchids; R. Smith & Son, silver-gilt medal for Clematises; J. MacArthur, large silver medal for Orchids; W. Cutbush & Son, large silver medal for a group; C. Turner, silver medal for Azaleas and Roses; T. S. Ware, large silver medal for cut flowers; Barr & Son, large silver medal for hardy flowers; Kelway and Son, large silver medal for hardy flowers; J. Cheal & Sons, large silver medal for rockery and flowers; J. Laing & Sons, silver medal for a table of plants; J. Carter & Co., silver medal for Petunias; G. Mount, silver medal for Roses; A. Waterer, silver medal for Azaleas; H. Low and Co., silver medal for Cannas; Howell, silver medal for Ferns; J. Jenson, silver medal for Pelargoniums; T. S. Ware, silver medal for Irises; Barr & Son, silver medal for a table of flowers; and T. S. Ware, silver medal for Malmaison Carnations. Besides these there were medals for sundries and for floral decorations.

— MAY WEATHER AT DRIFFIELD.—Mean temperature at 9 A.M. (corrected), 54.61°; mean maximum, 61.16°; mean minimum, 40.49°; highest, 75.6° on the 14th; lowest, 28.4° on the 4th. Mean of maxima and minima, 50.82°. Mean radiation temperature on the grass, 36.46°; lowest, 20° on the 4th. Rainfall, 0.82 inch. Number of rainy days, seven; greatest amount on one day, 0.28 inch on the 21st.—W. E. LOVEL, *Observer, York Road, Driffeld.*

— THE WEATHER IN FORFARSHIRE.—The weather of May has been exceptionally fine throughout, the mean temperature being over 3° above the average. But the variations of temperature between day and night have been trying. On the 11th the thermometer recorded 80° in the shade, but at night fell to 38°, a variation of 42°. The mean temperature of the month was—maximum, 63°; minimum, 42.6°. Mean of the month, 52.8°. The rainfall has been very light, only 0.76 inch fell, which is a little more than one-third of the average; in fact, the rainfall for the five months of this year is extremely light, being only 4½ inches, whereas the average of these months is over 10 inches.—JOHN MACHAR, *Corona, Broughty Ferry, N.B.*

— THE WOOD TULIP.—The numerous varieties which florists introduce from the wild parents often lead to the oversight of the originals, which frequently have great merits as herbaceous plants. Thus the parent of the modern Hyacinth, *Scilla non-scripta*, is a valuable addition to any garden plot. In like manner, one of the parents of the modern Tulip, *Tulipa sylvestris*, a native of the woods of northern Europe, is one of the most desirable of herbaceous plants. Its large golden cups are freely produced—and once planted it takes care of itself for all time.—("Meehan's Monthly.")

— WASHING SODA FOR THE ONION MAGGOT.—An old man, who is one of the local allotment holders, has informed me that he is always able to overcome the Onion maggot by giving the plants occasional waterings with a solution of common washing soda at the rate of about 1 lb. to 20 gallons of water. It is better to err on the side of weakness rather than of over-strength. This is a remedy, assuming that it really is such, that all can try, as soda is cheap, and to be purchased at every grocers. Some strongly advised remedies are not so readily obtained, and when such is the case their use is greatly militated against. It is very probable that 2 or 3 lbs. of softsoap, mixed with the soda solution, would be useful, as it would in that case be all the more adhesive.—A. D.

— GRAPES STONING.—During this process the berries remain almost stationary, and require a regular temperature of about 65° at night, and 70° to 75° by day from artificial heat, if the Grapes are required by a given time; but if not, 65° only need be maintained on cold, dull, wet days; but admit air in good time, always a little at 70°, or before, after a spell of dull weather, so that any moisture will be dissipated before the sun acts powerfully upon the foliage. Allow a moderate lateral extension, but avoid overcrowding, and supply liquid manure or wash in a top-dressing of fertiliser. Avoid, however, feeding luxuriant Vines too liberally, especially with ammoniacal manures, giving in their case phosphatic and potassic elements in the proportion of two parts the former to one of the latter. This will enable the Vines to maintain steady progress and finish their crops, whilst storing matter for the coming season's bearing.—GROWER.

— FLOWERS FOR LONDON TOILERS.—It has occurred to me that a quiet work which is being done to brighten the lives of some of our London toilers "behind the scenes" might be of interest to your readers. I refer to the "Flower Mission to the London Workrooms." Once a week a few ladies meet to make up into tasteful little bunches the flowers sent by country friends; texts are attached to the bunches, and they are then taken to the different workrooms belonging to the shops, to which an entrance is kindly permitted by the managers, in some of the principal thoroughfares. The flowers and their bearers are eagerly welcomed, and hearts are cheered by the little messages and loving words which are given with the flowers. One can understand that these workers, whose everyday lives are so monotonous and unvaried, would be gladdened by the flowers, few of them ever having the opportunities to see them growing in all their beauty. Perhaps some of your readers who have more than sufficient in their own gardens might like to share what gives them such pleasure with those who have so little brightness in their lives. If so, weekly or occasional gifts would be most gratefully received by the "Flower Mission Secretary," Cloudeley Institute, 34, Barnsbury Street, Islington, N., on Thursday mornings. All gifts would be acknowledged and hampers returned if addressed label is enclosed.—E. C. C.

— BROCCOLI CULTURE IN KENT.—The cultivation of Broccoli for market has been greatly extended in Kent of late years, and in consequence of the mild weather that has prevailed throughout the past winter the crop has this season been a large one. Late varieties are extensively grown in East Kent, and during May enormous quantities have been despatched to the metropolitan markets. On one evening of last week seventeen truckloads, averaging 1½ ton each, were despatched from Sandwich Station to the Borough and Covent Garden Markets.

— NEPENTHES AND THEIR CULTURE.—Under the above title Mr. Octave Doja, 8, Place de l'Odéon, Paris, has published a little brochure, thirty-one pages, from the pen of Mons. Jules Rudolph, a member of the staff of Messrs. Vilmorin-Andrieux & Co. The introductory chapter is written in a very interesting style, while the particulars of cultivation are clear and concise. This portion of the work is subdivided by such cross-headings as Heat, Moisture, Light, and others, which serve to impress the importance of these points on the reader. Propagation is capitally dealt with in the concluding chapter, and besides there is given a list of the species and varieties with the country whence they came, with a disquisition on the degeneration of *Nepenthes Mastersi*. The work is illustrated by wood engravings, and cultivators of Pitcher Plants, who are conversant with the French language, would find in it information that would both interest and instruct them. The price is 10d.

— ROYAL SOVEREIGN STRAWBERRY.—The Fruit Committee of the R.H.S. may be congratulated on the certifying of this fine early Strawberry, because it so far has proved to be the best variety put into commerce during the past few years. How many varieties have been certificated there are that seem not to have made any mark. That is not the fault of the Committee under existing conditions. Strawberries are very erratic, and will do well in one place and very badly in another, and even then with no assured permanence. Naturally growers want reliable sorts, and of all the new ones Royal Sovereign so far has proved to be the best, whether forced or outdoors. When it is remembered that out of the scores of new Strawberries put into commerce during the past fifty years how few have really become generally grown, we may well be gratified that one more at least is now included of standard value. Could all new Strawberries be widely grown some four or five years before being placed before the Committee it would save many mistakes.—A. D.

— WAKEFIELD PAXTON SOCIETY.—On Saturday, the 23rd ult., there was a large attendance of members. Mr. Thomas, gardener at Bishopgarth, presided, and Mr. Corden was Vice-Chairman. Mr. G. Hudson, Woolley, read a short and practical essay on "The Culture of the Calceolaria," and there was a very fine show of blooms. After twenty-five years' experience, Mr. Hudson said he found the best situation to raise seedlings was under a north wall. Seeds should be sown in the second week of July or the first week in August, very thinly in a shallow pan and just covered over with fine soil consisting of fibry loam, leaf soil, and sand, which should never be allowed to get dry. Place a hand-glass over. Seedlings with this treatment are hardy from the first. When large enough to handle the plants should be pricked off into pans; they must never have a check from seed pan to blooming period. Speaking of the liability of Calceolarias to green fly, Mr. Hudson said if once plants became infested it was best to throw them away, as it was impossible to get rid of the insects. But he had never found any difficulty in keeping the plants clean by giving them a slight fumigation as soon as they were potted in thumb pots, and then once a week or fortnight. The plants should be repotted as soon as the roots reach the sides of the pot. It was a mistake to give the plants too large a shift each time of potting, as the soil was liable to get sour before the roots took possession of it. The soil best suited was good fibry loam, leaf mould, fine charcoal, with a little spent Mushroom bed and coarse sand. At the last potting the compost should be used rough, and in every case well drained and clean pots are necessary. The plants should be kept in a cold frame until late in the autumn, and then removed into a cool house, where the frost is excluded, and as near the glass as possible. The plants should never be allowed to get dry at the roots. No plant took more water than the Calceolaria, but care should be taken not to saturate them till the pots become filled with roots, when water may be given *ad libitum*. Mr. Hudson referred to the vast improvement of the Calceolaria in the last twenty-five years by means of hybridising. This was done with a very fine camel's hair brush in the morning when the pollen is perfectly dry, a fine sunny day making all the difference as to success. An interesting discussion was taken part in by several members, and a hearty vote of thanks was given to Mr. Hudson.

— **NURSERY OR MARKET GARDEN?**—A case of great importance to nurserymen was recently decided by the Judge of the Manchester County Court, involving the question whether a nursery garden was a market garden, so as to entitle a tenant of it to a year's notice to quit, under the Agricultural Holdings Act. The agreement of tenancy provided that the land in question should be used as a nursery garden. The landlord contended that a market garden meant one in which edible articles—*e.g.*, fruit and vegetables, only were grown for sale in the open market, while the tenant argued that flowers and bedding plants were now as extensively grown for the market as vegetables. The Judge decided in favour of the landlord—that a nursery was not a market garden within the meaning of the Act.

— **STYRAX OBASSIA.**—In the admirable paper on "Trees and Shrubs in Japan," read before the Royal Horticultural Society by Mr. Jas. Veitch some time since, he refers to the great beauty of *Styrax obassia* when in bloom. This is one of the tree shrubs, as it may well be designated, brought home from Japan by M. Maries, and at the present moment two large specimens are blooming at the Coombe Wood Nursery, where they present singularly beautiful and attractive objects. These trees are some 15 feet in height. They carry in great profusion long racemes of pure white flowers, that are very lovely and sweetly perfumed. The leafage is very large, round, and flat, indeed is of itself very attractive, forms admirable shelter for the abundant bloom from heavy rains or sunshine. The variety precedes by a few weeks the now better known *Styrax japonica* growing close by. In time we may hope to see these grand shrubs in most good gardens.—A. D.

— **DRY WEATHER IN AMERICA.**—A protracted drought so early in the year as this is phenomenal, but all the country hereabouts (New York) is now suffering for lack of water. When pasture fields in the middle of May look as brown as they do in August, and there is no grass growing in the meadows, and even the Plantain leaves are curling up on the lawn, the outlook for the farm and garden is not promising. The extreme hot weather forced flowering plants into bloom earlier than usual, but the flowers came all at once when they should have been spread over at least a fortnight. A forced growth is always feeble and the flowers lasted but a little while. The season of Tulips and Daffodils was never so short. Meanwhile, vegetable seeds lying in the ground, which is almost dust-dry, show no signs of germination. These droughts, which now seem to come every year, are so destructive that no garden is safe without some appliance for irrigation.—("Garden and Forest.")

— **PAULOWNIA IMPERIALIS.**—When on a recent visit to Worthing my attention was particularly drawn to a fine old specimen of this uncommon Japanese tree, and which I believe was introduced to this country in 1840. The specimen in question is the largest I have yet heard of growing in Great Britain, and without its foliage and flowers somewhat resembles in its large trunk and stubby branches a broken branched old Walnut tree. It is about 30 feet in height. At the time of my visit the grotesque looking old specimen was arrayed in a profusion of its large paniced Foxglove-shaped lilac-purple coloured flowers, and with its sparsely unfolding foliage presented a most striking and singular appearance, growing as it does in close proximity to the principal façade of the Childrens' Convalescent Home. The chief object of this notice is to ascertain if there are any other specimens of equal size in this country, and evidently it must have been one of the originally imported plants, unless grown from seed. The age and large size of the Worthing specimen is a good illustration of the mild temperature of the district.—W. G.

— **DEFOLIATION OF TREES IN EPPING FOREST.**—Lepidopterous larvæ seem destined to cause serious damage this season. In Epping Forest the attacks of the larvæ of the winter moth (*Cheimatobia brumata*) and the three species of *Hybernia* (*H. defoliaria*, *aurantiaria*, *et progemmaria*), together with the little *Tortrix viridana*, are completely defoliating the Hornbeams and Oaks, and are even attacking the Beeches to an extent hardly to be credited. The webs spun by the caterpillars are hanging in sheets from the trees, and in some cases quite enwrapping the seedling Hollies and other small undershrubs with silky envelopes. Birds are more numerous in the Forest than they have been for many years past, but they appear to have little controlling influence in the case of outbursts like the present. The carnivorous larvæ of the two Noctuæ, *Cosmia trapezina* and *Scopelosoma satellitia*, are becoming abundant, and may do some service; but we fear that the charming spring foliage of many of the woods will be spoilt until the curious refoliation occurs at midsummer.—W. C. (in the "Journal of the Essex Technical Laboratories.")

— **DOUBLE STOCK PURITY.**—Some eight weeks since a couple of the plants, each in 48-sized pots, shown at the Drill Hall by Messrs. Sutton & Sons, of this Stock were given me, and I brought them home. They are still in good bloom, though each one has lost some of the lower leaves, due no doubt to their having sometimes been allowed to become too dry. That is saying a great deal for flowering plants kept in the window partially, and partially outside, in a town like Kingston. I cannot but think that, seeing how well Stocks thus show endurance in pots, that they should be much more grown for market purposes because they can be sold cheaply. It costs little to raise Stocks by sowing seed in July or early in August, growing them singly in good loam, under which treatment they bloom freely in the early spring. Purity is a wall-leaved Stock, height about 10 inches, branching, and very richly perfumed. As its name implies, it is pure white.—A. D.

— **THE UMBRELLA PINE, SCIADOPITYS VERTICILLATA.**—It is now found that this plant thrives best in peat. To some extent that seems to be the cause of its doing so well in some places and badly in others where peat is lacking. What seems to be a special merit in this interesting Japanese Pine is its extreme solidity. It is said of large trees in Japan, from which it was needful to collect cones, that so dense was the branches that ladders could be placed against them from the outside as though a solid wall, and up them the men would go to gather the cones. Plants grown in peat, as may be seen at Coombe Wood, show not only strong growth but this density of character in a marked degree.

— **A TOMATO TROUBLE.**—What seems to be a fungoid form of disease in the stems of Tomato plants was shown me recently by a market grower at Hounslow. Plants with him in various stages of growth, from 2 inches to 15 inches in height, damped off, as it were, close to the root literally wholesale. Such a trouble had never occurred before, and the cause could not be understood. Plants got into fruiting pots, and of good height, though still apparently fresh and green, would be found to have the bottom of the stem, just on the surface of the soil, shrivelled, brown, and quite soft. When compressed with finger and thumb it was found that all substance had disappeared, and in place thereof thin dried bark, which was hollow, and apparently eaten up with some form of fungus. The soil seems sweet and good, and the water laid on is warm and excellent. Has any other grower met with the same trouble?—D. K.

— **GOLD-LACED POLYANTHUSES.**—The strain of gold-laced Polyanthuses which Mr. W. James has at Farnham Royal has been more than once of late elsewhere referred to. I saw these plants one and two years since, and again recently, when they were large clumps, blooming profusely. The late Mr. James obtained the strain from that other lamented florist, Mr. Samuel Barlow, and those who remember this latter grower's beautiful Sunrise with its red ground could not fail to admire it. But red grounds always are scarce, and they need careful saving. Black grounds are plentiful. I was pleased to note that the strain had been hard rogued, but though I saw the plants very late the perfect lacing and clear lemon centres found in them were most marked. I hope in time some of these good seedlings will get into commerce, and thus enable fanciers of such very charming flowers to once more enjoy the pleasure of cultivating good hardy varieties here in the south.—A. D.

WHITE AND YELLOW ROCKETS.

I AM sending you specimens of the old double white Scotch Rocket and the yellow Rocket, *Barbarea vulgaris* fl.-pl. It is very strange that such beautiful plants should be so little grown. How very seldom they are seen in gardens! Both the varieties are infinitely superior to many of the newer plants that have been sent out with a "flourish of trumpets." We have a bed of the kinds named in the kitchen garden, containing about sixty plants, and nothing could be finer than they are. Their culture is of the very simplest description. After the plants have done flowering cut them down. When they have begun to make a little growth lift and divide them, replant in deeply dug, well-manured soil, about 12 or 15 inches apart.—NORTH NORTHUMBRIAN.

[The central stem of the double white Rocket exceeds a foot in length, and is very massive. It is surrounded by ten side branchlets nearly as long, but more slender. We have not seen such a good specimen of this fine old border plant for many years. But what shall we say of the double *Barbarea*? The central spike is 18 inches long, the fifteen side branchlets about a foot, the whole studded with small perfectly double flowers, similar in size and shape to those of *Achillea ptarmica flore-pleno*, but of the richest golden yellow imaginable. There are, at least, 700 of them on the branching spike—the finest we have seen, and distinctly attractive.]



ODONTOGLOSSUM LYSOGLOSSUM.

THE section of this genus to which *O. luteo-purpureum* and similar kinds belong is rich in natural hybrids, and although classed as a species there is little doubt that this fine Orchid is one of those. It is a splendid plant whether species or hybrid, and one that no collection should lack. The flowers are individually large, and produced on fine racemes from the side of the pseudo-bulbs. The sepals and petals are bright yellow, undulated and deeply toothed, having several large blotches of dark brown; the lip is folded at the point, and similar in colour to the other segments. The plant is vigorous and free blooming, quite as easily grown as the well-known *O. luteo-purpureum*, and thriving under similar conditions.

A small pot half filled with drainage, and a compost consisting of equal parts of peat fibre and sphagnum, will grow it well, and the coolest house at command should be chosen for it. No drying off is necessary, but plenty of water must be given all the year round, more, of course, when growing and rooting freely than when comparatively speaking at rest. The house wherein this class of plant is grown must be freely ventilated, heavily shaded, and kept moist during the summer; and if this is not convenient they will be much more satisfactory in a cool shady frame from now until September, than in a hot or dry structure.

NEWLY IMPORTED ORCHIDS.

THE comparatively high prices that still have to be paid for established Orchids from nurserymen of repute, and the many disappointments consequent on buying from others who make a speciality of Orchids cheap and rubbishy—not to use the stronger expression—have led many amateurs to fall back upon imported plants wherewith to replenish or form their collections. These are easy to obtain, and procurable oftentimes at a fraction of the cost of the former class of plant, and so well is the work of transport now understood and the transit so rapid that really in some instances there is little to choose between them. Some weeks ago I had the pleasure of a look through a collection, formed in less than two years in the manner indicated, and although I knew the owner was keen in the matter of Orchid buying, I was surprised to see so many plants in flower and spike.

From the condition of these plants it was evident that some species get over their journey much quicker and with less injury than others, and in forming a collection this fact ought not to be lost sight of. There are many species that, in fact are, if imported in good order, worth more than plants of the same size would be after having been several years in this country. Take the majority of the nigro-hirsute *Dendrobiums* as an instance. There is no trouble in establishing such as *D. formosum*, *D. infundibulum*, or any of this race, though they may look much shrivelled and out of condition. They have all the innate vigour in them, and only need the stimulating heat and moisture to bring this forth from the dry parched looking bulbs. Note the sound plump eyes at the base of these; see how quickly they reply to the more congenial conditions of the Orchid house after their long drying. Could anyone hope so to bring round a plant that had got into this condition under our artificial treatment? I think not. *Epidendrum bicornutum*, the most beautiful kind in this extensive genus, is another case in point. *Cattleya superba* is another, and many more might easily be instanced.

To leave these rather difficult subjects to keep in health, and turn to those more easily suited in our artificial climates, there are again many that in a very short space of time look as well, and flower as freely, as plants grown regularly and systematically for years. I have not infrequently received plants of *Odontoglossum citrosium* one day and potted them the next in the usual way, and quite a number of these have produced flower spikes on the first new growth. *O. pulchellum* again grows away at once with the greatest freedom, sending out new roots, and forming capital pseudo-bulbs the first year. *O. Halli* and *O. Reichenheimi* will swell up immense bulbs if allowed rather more heat than usually accorded them, and kept in a moist atmosphere. *Dendrobium Bensoniæ* and *D. Parrishi* are two kinds that cannot be called difficult of cultivation, yet how often one comes across them in anything but the best form. These if newly imported grow at a great rate, and often improve on the native pseudo-bulbs.

All the deciduous section of this last genus may be easily induced to flower in the first formed growths if started at the proper time and judiciously treated, *D. Wardianum*, *D. Pissardi*, *D. Devonianum*, and their varieties and allies included. The evergreen kinds, on the other hand, although easily established and soon making good plants, do not as a rule flower quite so quickly. But with these the time of waiting is well repaid, for the racemes on such as *D. densiflorum*, *D. suavisimum*, and others, are truly grand when once the plants are established, and possess a richness of colour not usually seen in older specimens. There is yet another class of Orchid that may be said to be too free blooming at first; and how many fine promising plants of the crispum and Marshallianum type of *Oncidium* have been killed by this premature flowering it would indeed be difficult to say. This, of course, is easily prevented, and a cultivator who allows his plants to flower themselves to death has only himself to thank. Curiosity as to the variety is only a lame excuse, for a blossom or two left on a spike would be ample to determine this, and no injury to the plant would result.

Taken as a whole, then, there is much to say in favour of imported plants, but, as will be noted, all those named above are of the pseudo-bulbous division. These, from their nature, lend themselves more readily to the drying processes consequent on importation, while those that like it least will be found among the evergreen distichous-leaved and other Orchids not bearing pseudo-bulbs. This section comprises many fine Orchids, of which *Aërides* and *Vandas*, *Angræcums*, *Phalænopsis*, *Masdevallias*, and *Cypripediums* need only be named. Space does not permit my going fully into these in this note, though an opportunity may arise for a little further discussion on the subject. All, of course, can be established with more or less loss during the process, but I would strongly recommend inexperienced readers to let them alone until they have tried their hand at the pseudo-bulbous division.

The chief point to study with them all is to gradually inure them to their altered conditions by not giving too much water or allowing much heat at first, keep everything about them sweet and clean, and when the compost is applied mix this in such a manner as to allow a full and free passage for both air and water. They can then hardly fail to be satisfactory, and in due course the opening flower will be a source of much interest and pleasurable speculation.—H. R. R.

AN EXHIBITION OF ORCHIDS.

EXHIBITIONS of Orchids alone are not met with every day, but there is one now in progress at the nurseries of Mr. W. Bull, King's Road, Chelsea, which has been open for some time, and will remain on view for several weeks yet. The house in which the hundreds of Orchids are exhibited is a span-roofed one, having one wide central bed with comparatively narrow stages round each side and along the ends to the doors. The utility of Orchids as town plants is well exemplified by the excellence of the flowers in this collection, notwithstanding the soot and smoke with which they are almost continually covered and surrounded.

Rich alike in variety and quality, the present show is undoubtedly one of the finest that has ever been held under the auspices of Mr. Bull, and it contains many a single plant that is alone worth a long journey to see. Another lesson that is taught here is in the arrangement of the plants. While as one walks round the house, though one rarely finds a blank space, there is never the slightest suspicion of crowding; on the contrary, each plant seems when it is reached to stand alone, entirely on its own resources, and admirably is each one fitted to its task. Looking along the structure from any position, the charming flowers produce such an effect as is too rarely seen, and thanks must be accorded for this to the graceful sprays of the *Odontoglossums*, the elegant *Oncidiums*, the stately *Cattleyas* and *Lælias*, the arching spikes of the *Cymbidium*s, the bold upstanding flowers of the *Cypripedium*s, and the many others that are grown. Each plant, each flower even, has a merit of its own, to appreciate which it is absolutely necessary that the flowers be visited and inspected at home.

It would be difficult to determine in which section of Orchids the exhibition is richest, but *Lælias* can be placed second to none; so we will give them first attention. Of course, the *L. purpuratas* are now to the fore, and these in their diversity would make a show of themselves. The colours range from the pure white of the sepals and petals in *L. p. alba* to those with crimson markings on the same organs of a new variety named *L. p. versicolor*, which is the gem of the whole collection. With the richness of the colour are combined size, substance, and form. Besides these two there

are, of course, many others, named and unnamed, of very good quality, but of which specific mention cannot here be made. Taken as a whole, the *Cattleyas* are not quite up to the average of the *Lælias*, but yet there are several excellent forms, of which one called *C. Mendeli majestica* is certainly the most conspicuous. The flowers of the varieties of *C. Schröderæ* are rapidly on the wane, but those of *C. intermedia*, *C. Lawrenceana*, and *C. citrina* well perform their part in adding beauty to the collection.

Odontoglossums are equal to the *Lælias*; in fact, probably lovers of them would assert that they are decidedly superior in their charming variations. Of all the *Odontoglossums* the best represented section is that of *O. citrosimum*. Here one may see the normal forms, with rose coloured and spotted varieties in great

largely under notice, and the quantity has by no means detracted from the individual quality. The chastely beautiful *D. Dearei* attracts much attention, as do *D. Walkerianum*, *D. Dalhouseianum*, *D. Jamesianum*, and others. Widely differing from these are the several examples of *Cymbidium Lowianum*, whose arched spikes and charming flowers have been used with telling effect in the general arrangement. The plants are capital examples of good culture, as also are those of the many *Masdevallias*. *Phaius assamicus* is imposingly handsome, as also is the charming *Lycaste Skinneri ampliatum*. The flowers of *Sobralia macrantha*, though only of fleeting beauty, are worthy of more than passing notice, and the same may be said of *Phalænopsis Luddemanniana superba*, the various *Oncidiums* with their graceful charms, the *Epidendrums*, and the *Aërides Fieldingi* with their fox-brush shaped inflorescence.



FIG 84.—MAGNOLIA CONSPICUA AT CAEN WOOD TOWERS. (See page 508.)

numbers and of fine quality. The plants are almost all in splendid health, and producing spikes of exceptionally good flowers, much better indeed than are usually seen in collections. Not that other kinds are neglected; on the contrary, the *O. crispum* are very beautiful. Some of them have flowers almost wholly white, whilst others are profusely spotted with large or small spots of a chocolate brown hue. As we only purpose mentioning one it shall be *O. c. stupendum*, a variety with flowers of excellent size and substance. *O. vexillarium* is particularly good, more especially in pure white varieties; while *O. Roezli* is also of great merit. Other noticeable *Odontoglossums* are *polyxanthum*, *ornatum*, *Hookeræ*, and *radiatum*.

Passing now to the *Dendrobiums* we find the same splendid conditions prevail, for all the plants are carrying goodly numbers of flowers, one of *D. Devonianum* being most prominent in this respect. There are blooms by the score on the plant particu-

Extensive in numbers are the *Cypripediums*, and almost equally as diversified in variety. Generally they are staged amongst the other plants in groups of one kind, and in this manner show to the best advantage, as the surrounding plants act as an admirable foil, and greatly accentuate their natural beauties. The little blocks of *C. Lawrenceanum*, *C. superbum*, and *C. barbatum* cannot fail to attract the attention of all visitors, more quickly perhaps than the solitary specimens of *C. tonsum*, *C. Exul*, *C. Chamberlainianum*, and *C. Mastersianum*.

In brief, attention has now been called to the most conspicuous plants in the collections, but for the whole to be appreciated readers should join the throng that is daily wending its way to Bull's exhibition. They will be welcomed, and will see much that will interest them, and at the same time their education will be raised one step higher in Orchid beauty and variety.—H. W.]



ROSE SHOW FIXTURES IN 1896

- June 17th (Wednesday).—York.†
 „ 18th (Thursday).—Colchester and Isle of Wight (Ryde).
 „ 24th (Wednesday).—Reading (N.R.S.), Richmond (Surrey).
 „ 25th (Thursday).—Hereford.
 „ 27th (Saturday).—Canterbury, Southsea, and Windsor.
 „ 30th (Tuesday).—Maidstone and Sutton.
 July 1st (Wednesday).—Croydon, Ealing, Farnham, Farningham, and Leatherhead.
 „ 2nd (Thursday).—Bath, Eltham, and Norwich.
 „ 4th (Saturday).—Crystal Palace (N.R.S.)
 „ 7th (Tuesday).—Harrow, Wolverhampton.†
 „ 8th (Wednesday).—Canterbury (Hospital Fête), Chelmsford, Hitchin, Lee,* Newcastle-on-Tyne,† Redhill (Reigate), and Tunbridge Wells.
 „ 9th (Thursday).—Helensburgh, Woodbridge, and Worksop.
 „ 11th (Saturday).—New Brighton.
 „ 14th (Tuesday).—Westminster (R.H.S.).
 „ 15th (Wednesday).—Ulverston (N.R.S.)
 „ 16th (Thursday).—Halifax.
 „ 21st (Tuesday).—Tibshelf.
 „ 25th (Saturday).—Manchester.
 „ 29th (Wednesday).—Chesterfield.
 „ 30th (Thursday).—Trentham.
 Aug. 5th (Wednesday).—Chester.*
 „ 19th (Wednesday).—Shrewsbury.*

† A show lasting three days. * A show lasting two days.

Any dates not appearing in the present list I shall be glad to publish in the next one.—EDWARD MAWLEY, *Rosebank, Berkhamsted, Herts.*

HEREFORD ROSE SHOW.

THE schedule of the thirtieth annual exhibition of Roses, held under the auspices of the Hereford and West of England Rose Society, has just come to hand, and by it we see that the show will be held on Thursday, June 25th, in the Castle Green, Hereford. The schedule is, as usual, comprehensive, and the prizes are generous, and it is hoped that the exhibition will be an unqualified success. The Hon. Secretary is the Rev. Preb. G. E. Ashley, Stretton Rectory, Hereford.

ROYALTY AND ROSES AT ST. ALBANS

AT the Royal visit to the recent Bath and West of England Agricultural Show at St. Albans the flower tent was visited by their Royal Highnesses the Prince and Princess of Wales. In the group of Messrs. Paul & Son of Cheshunt they were pleased to particularly notice the new single Rose Paul's Carmine Pillar, masses of which, from the open air, were shown. Her Royal Highness the Princess of Wales was graciously pleased to ask for and wear a bunch of the flowers, the Prince donning a buttonhole of the same, an example followed by Lady Salisbury and other members of the Royal party.—PAUL & SON.

NEW FOREIGN ROSES (*continued from p. 468*).

THE comparatively new class of Hybrid Teas has received of late years many additions from abroad, for the foreign raisers, seeing that there were many in this country who greatly praised them, and seemed to wish for more, were not slow in creating a supply to meet the demand; but I see no reason to alter the position that I have all along taken up. It is not, as many seem to suppose, that I object to the Roses which are brought out under this term, but I object to the term itself, and contend that if a Rose is a cross between a Tea and a Hybrid Perpetual there is no reason whatever why it should not be classed with one or either of the sections which it seems most to favour. Thus, to take two Roses which have obtained deserved popularity of late, and which are catalogued under this section, Caroline Testout and Kaiserin Augustine Victoria, I see no reason why the former should not be classed as a Hybrid Perpetual, the section to which it approximates more closely, and the latter be placed under the Teas. Indeed, I believe that were it not for this new classification no one would have hesitated to do as the late Mr. George Prince did, and state that it was a pure Tea, more approaching to a Noisette than to any other section. In classification simplicity ought to be our rule, and I would rather that all Hybrid Teas, to whichever section they approximate, were classed with Hybrid Perpetuals, and I think a great point would be gained.

I will now proceed to give a list and description of those new Roses in this section which are brought before us.

Antoine Rivoire (Pernet Ducher).—Cross between Dr. Gull and Lady Mary Fitzwilliam; a very full large flower, shaped like a Camellia, rosy flesh colour, yellowish at the base, shaded with bright red.

Beauté Lyonnaise (Pernet Ducher).—A seedling from Baroness Rothschild; very large, a full cup-shaped flower, faintly yellow at the base.

Madame Charles Detraux (Vigneron).—A very sweet flower; large and full, globular shape, a bright red colour slightly shaded with carmine.

Madame Corbœuf (Corbœuf).—A scarlet red flower, not quite full but large well-formed, cup-shaped.

Madame Jules Gérard (Gérard).—A cross between Madame Chédane Guinoisseau and Baroness de Rothschild; a very sweet and floriferous flower, large and full, of a beautiful flesh white colour.

Madame Tony Babond (Godard).—A sweet nankeen yellow flower, borne single on a long firm footstalk, not quite full.

Mlle. Alice Furon (Pernet Ducher).—Cross between Lady Mary Fitzwilliam and Madame Chédane Guinoisseau, of a yellowish white, reminding one of Gloire Lyonnaise; it is a large flower, globular, full, and very free flowering.

Mlle. Hélène Gambier (Pernet Ducher).—A large flower and very full, the colour from salmony rose to copper rose.

Monsieur Tony Babond (Godard).—A very sweet flower, a cross between André Schwartz and Louis Van Houtte; large, and of a velvety red colour.

Rosette de la Legion d'Honneur (Bonnaire).—Garnet red coloured rose, shaded with cerise. The bud, when it is ready to open, is singularly like the rosette of an officer of the Legion of Honour.

Souvenir d'Auguste Métral (Guillot).—A very sweet flower; large, full, and well made, varying in colour from purplish red to crimson red.

There are one or two things worth noticing in this list. Most of the Roses contained in it are of various shades of red, and there are many of them globular in shape, and I am therefore inclined to think we shall find very little of the Tea Rose in them, and they have so great an affinity to the Hybrid Perpetuals that they might be very well included in this class; but of this we cannot, of course, judge positively until we have seen them, and the question is, Shall we see them? for English growers are much more cautious than they used to be, and we have but little intimation from any external source as to what they are likely to be.

HYBRID PERPETUALS.

Captain Christy Panaché (Letellier fils).—A sport from Captain Christy. The flowers large, full, and of the same shape and bearing as those of that flower; but beautifully striped with dark rose upon light rose.

Comtesse de Granay (Lévêque).—A large, full, globular-shaped flower of a dark crimson red colour, shaded with purple and carmine.

Comtesse de Mercy d'Aréngteau (Lévêque).—This is a fine variety; the flower is large and well shaped, of a velvety red colour shaded with brown, which is relieved with a bright crimson.

Eclairer (Vigneron).—A very sweet-scented flower; large, full and cup-shaped, of a bright red colour, and the outer petals velvety.

Exposition de Provins (Cochet-Cochet).—A seedling from Triomphe de l'Exposition; a large, well shaped flower, of a fine velvety red colour, with the back of the petals scarlet.

François Coppée (Lédéchaux).—Medium sized flower, well made and opening well; brilliant crimson colour, the reverse of the petals not so bright.

Graf Fritz Metternich (Souper & Notting).—A cross between Sultan of Zanzibar and Thomas Miller. A very sweet flower, large and full; reddish brown, shaded to velvety black, but bright cardinal red in the centre.

Gross Lerzok Karl Alexander (Schmidt).—A cross between Prince Camille de Rohan and W. F. Bennet. A large, full, erect flower, of a brilliant purplish carmine red colour.

Gross Lerzokin Sophie Louise (Schmidt).—A cross between Baroness de Rothschild and Général Jacqueminot. A not very full, large flower, growing only one on a stalk; a salmon rose colour, fading off to a shining satiny rose as it dies off. An excellent variety for forcing.

Madame Verrier Cachet (Chédane Guinoisseau).—A very sweet, large, full, globular-shaped flower; a fresh rose colour, shaded with vermilion, the reverse of the petals slaty.

Monsieur Gonin (Pernet père).—A large, well-made flower, nearly full, of a bright red colour, lightly shaded with carmine. It is very sweet scented.

Panaché de Lyon (Dubreuil).—A sport from "Rose du Roi," but it differs from it in having a very regular stripe of dark crimson on a China rose ground.

Robert Lebaudy (Lévêque).—A large well made flower of a sparkling vermilion red shaded with purple.

Souvenir d'Albert la Blotais (Pernet père).—A large nearly full flower, well made, and carrying itself well on a firm straight footstalk; the colour is a bright red, and the exterior petals are velvety. It is very sweet.

Souvenir de Bertrand Guinoisseau (Chédane Guinoisseau).—A very sweet and floriferous flower, large and very full, of a purplish red colour shaded with chrome.

Venus (Schmidt).—A seedling from Général Jacqueminot; a sweet scented, large, full flower, well made, and supported by a firm footstalk; it is of a dark velvety purple colour.

Beside these there are a few as usual of various other classes, such as climbing Noisette Belle Vichysoise, which is a seedling of Lévêque's, and is described as blooming in large clusters of white and pink flowers on the same cluster, a few Polyanthas, which do not seem to present anything very remarkable. There are also two new Bourbons, but I hardly think that they call for any special notice, as we have not received any remarkable additions to this class from abroad of late years. Such,

then, are the new Roses, as far as I have been able to ascertain, imported to us from abroad for this season. There may be some unexpected beauty amongst them, but I have not heard of any, nor do I think that our Rose growers are so keen on visiting the French nurseries as they used to be, while for the reasons I have already stated I do not think that many of the Roses now enumerated will appear in the stands for new Roses this season, for when exhibitors have the opportunity of growing good plants of the home-raised new varieties, it is not likely that they will put up with the weakly flowers obtained from the small plants sent over from abroad, and Newtownards, Cheshunt, Waltham Cross, and Bath afford many flowers from which selections of twelve can be made.—D., Deal.

MORINAS.

ONE of the smallest, yet one of the most beautiful border plants we possess is *Morina persica*. It is said by some to be half-hardy, but I have proved it to be perfectly hardy, having had it fully exposed for at least a dozen years. I find the plants succeed in a thoroughly drained situation fully exposed, and the soil broken up to the depth of 2 feet. Good friable loam, sandy peat, well-decomposed hotbed manure, a little charcoal dust or coarse grit is a suitable compost. The border should be prepared some time before planting, to allow it to become firm. The plants must be firmly placed in the soil, and well watered. They like a moderately moist, but not a wet, situation. When once well established they last a number of years.

They may be increased by division, but that sometimes proves injurious to their future well-doing, and I have known them after being wounded go off altogether. They seed freely, often sow themselves where established, and may be removed at pleasure. The seeds may be sown in the spring, the young plants be grown in pits or frames, and planted out in the autumn or spring. They are well adapted for indoor decoration, and some should be kept in pots for that purpose as hardy herbaceous plants for exhibition. Why such plants are so seldom seen in our herbaceous borders I am at a loss to account for. Surely the time is not far distant when attention will be directed to their cultivation. I only have two kinds in my garden—I think we have room here for hybrids.

Morina persica, from Persia, is a very beautiful border plant, and is the commoner of the two, but is scarcely met with in a day's journey. The flowers, being red and white, have a very pleasing effect. *Morina longifolia*, said to be from India, is of rather stronger habit, but equally interesting, the flowers bearing a shade of purple. This species is somewhat of a rarity, and as a border flower it is seldom to be seen.—X.

THE GARDENERS' ROYAL BENEVOLENT INSTITUTION.—ANNUAL DINNER.

AMONGST the various gardening charities none is more popular nor occupies a higher position than the Gardeners' Royal Benevolent Institution. It is with pleasure we are able to state that the fifty-seventh anniversary dinner, which took place in the Whitehall Rooms, Hotel Metropole, on Saturday, May 30th, proved in every way a brilliant success. For upwards of half a century this Institution has been carrying on its great work of rendering assistance to aged and disabled gardeners and their widows, thus bringing a ray of sunshine into lives that would otherwise be gloomy. The Institution therefore has a strong claim on the sympathy of all interested in horticulture. On this occasion the chair was occupied by the Rt. Hon. the Earl of Lathom, G.C.B., P.C., who was supported by Sir Oswald Mosley, Bart., the Rt. Hon. Viscount Powerscourt, His Honour Judge Philbrick, Q.C., Harry J. Veitch, Esq., N. N. Sherwood, Esq., and a large company of well-known horticulturists.

Lord LATHOM, when proposing the loyal toasts, remarked that Her Majesty the Queen had been pleased on this occasion to give a donation, and that Prince Christian was also a subscriber. (Cheers.) His Lordship then gave the toast of the evening—namely, "Continued Success to the Institution," and coupled with it the name of the Treasurer—Harry J. Veitch, Esq. His Lordship said that in rising to propose that toast he felt himself in a somewhat difficult position, as when he remembered the names of those who had occupied that chair before him he felt himself incompetent to follow them. The science of gardening, he continued, appeals to everyone, both countrymen and townsmen, whether it be in the cultivation of flowers or vegetables. Where would be the beauty of landscape without trees? (Hear, hear.) He would have no difficulty in going into a long history of gardening, but they all knew how the science had grown, and how by degrees advance had been made, till now we live under advantages that never before existed. (Cheers.)

I could tell you, continued Lord Lathom, of gardens I have seen at home and abroad, but you are all experts, and, therefore, I will not weary you. For his own part, he said, he was more a lover of the beautiful than one who lived to increase the art of cultivation of beautiful flowers. He had noticed the rush on the Chrysanthemums, and though admitting the beauty of the flower the plant was not difficult to grow, and, therefore, it did not appeal to him as it did to some enthusiasts. Those, however, who give up their lives to the pursuit of horticulture deserve to be succoured and helped when they can no longer work, and that was why he had been asked to occupy the chair on that occasion.

Going on to speak of the benefits of the Institution, his Lordship said there were two points that impressed themselves very much upon him—first, the very economical way in which the work is carried on, as the

Secretary (Mr. Ingram) keeps down the clerical expenses, and with the aid of a boy does the whole of the work connected therewith, therefore he thought all honour was due to him; secondly, the Institution encourages self help, as after being subscribers for a certain number of years, and in the event of old age, gardeners have made a good insurance; and again, it not only helps the men, but the women also. This, he thought, was a great point, as it is very hard after a man has paid a sum of money to provide for emergency and in the event of his death his widow to get nothing.

They all knew that gardeners were no better paid than most men, and in many cases had to provide for large families, hence their inability to make much provision for old age, and it was to meet such cases that he now asked for their assistance. As a rule gardeners were a highly cultivated class of men, but he was sorry to say that there were 157 persons on the pension list, eighty-two men and seventy-five women. He regretted also that there were now thirty-one pressing cases where assistance was needed. That the charity is widespread no further evidence was required than the fact that during the fifty-eight years in which the Institution has been in existence a sum of £70,000 had been spent in providing pensions. (Cheers.) The appeal for help was a strong one, and though no words of his could make them give more than they had come with the intention of giving, yet perhaps he might induce them to give more next time, or at any rate tell their friends, and in this way he felt sure many could be induced to subscribe who had never been subscribers before. He hoped they would do all they could to bring the Society before the public, and confessed that until last year he for one had never heard of its existence. He thanked them for having listened to him so patiently, and wished every success to the Institution. (Prolonged cheers.)

H. J. VEITCH, Esq., rose amid applause to reply, and thanked his Lordship on behalf of the Institution for being amongst them, an honour which he felt sure they all appreciated. He did not propose to weary them with many figures, but as this was the tenth anniversary of his election as Treasurer he should like to mention a few facts that would speak for themselves. Ten years ago they had £21,100 invested capital, at the present time they had £26,207, or, if represented at the current market value of the investments, £31,000. This increase of £10,000 in ten years showed that the money had been soundly and judiciously invested. At the same time their liabilities had increased correspondingly. Ten years ago there were 104 pensioners, to-day there are 157. Pensioners now receive more than they did at first, and he hoped the pay would be increased still further (cheers). Twice they had been able to put on all the applicants without an election. Once at the jubilee of Her Majesty the Queen, and also at the jubilee of the Institution; but he was afraid it would be a long time before they were able to do so again. Ten years ago fifteen persons applied for help, and now thirty-one cases were pressing. Last January there were forty-one applicants, and he was afraid there would be more, as through the present hard times there were many gardeners out of situation, and as the Institution gets better known there are sure to be more applications.

Memories would go back, he said, to their late indefatigable Secretary, Mr. Cutler. Many wondered what would become of the Society when he was taken away after fifty years' service. There was a saying, however, that there were as good fish in the sea as ever came out, and in securing the services of Mr. Ingram they were fortunate in catching their fish, for he had proved himself to be competent in every way, and it was a pleasure to work with him. Mr. Veitch then read an amusing letter from Mr. John Lee, the father of the Institution. Mr. Lee much regretted not being able to attend the dinner, but unfortunately in endeavouring to prune his own vines he had fallen and fractured his skull (loud laughter); he was also suffering from the effects of a bad cold. Apart from these ailments he was fairly well for an old fellow over ninety (laughter), and hoped they would have a large collection.

The Treasurer then made some reference to the alterations that had been made in the rules. At first it had been considered necessary, when forming the Committee, to choose the members from round London, as it was impossible for those dwelling long distances away to attend the frequent meetings. At the revision of the rule, however, they decided to increase the number from twenty-four to thirty-six, and that the extra twelve should be chosen from a distance of not less than fifty miles from the metropolis. An annual sum of £600 a year went for rent, salaries, and other expenses, and to show what the work of the Secretary is he might add that last year no less than 11,000 letters and circulars were sent out. It was necessary that they should keep a reserve fund in order to meet with any future emergencies.

Mr. Veitch then read a letter from Sir Trevor Lawrence, Bart., regretting his inability to attend, this being the first time he had missed for many years. He had, however, enclosed £21, and expressed himself much in sympathy with the Institution.

The toast of "Horticulture" was proposed by His Honour Judge PHILBRICK, Q.C., who remarked in commencement that one of the greatest and wisest of men, Lord Bacon, once said that when God Almighty made the world one of the first things he made was a garden. Gardening, continued the learned Judge, is the purest of all pleasures, and as a nation makes progress in civilisation so the art increases, and though in a higher state of perfection now than hitherto, gardening was largely carried on in ancient times, and even now we speak of the hanging gardens of Babylon as one of the wonders of the world. The study of horticulture has brought restoration and peace to the troubled spirit; it has brought happiness to those who have become imbued with the love of it, therefore he was proud to be there that evening and give the toast of "Horticulture."

Everywhere that Englishmen have gone, he continued, they have carried with them a reverence for beauty and a love of Nature, and to those Englishmen who have travelled to the unexplored parts of the world we owe much, as we have had brought to this country many things that have been the result of untiring research. Horticulture prospers and increases with the advance of the nation, and points to the garden as an addition to our civilisation. Englishmen are sincerely attached to all that is connected with the garden, from the humblest artisan who cultivates his "Geranium" to the lord with his pretentious hothouses. The occupation is an elevating one; the work of a gardener is honest and his wages are well earned. (Cheers.) He who makes the character of a God-fearing man is he who reveres the beauties of Nature. The taste for flowers, he continued, was an exquisite one, but he hardly knew what to say when everybody was with him, as in his profession he was more used to be contradicted. He was convinced, however, that there was a no more honest and noble science than horticulture, a science that whatever it touches it adorns. He knew he was speaking in the presence of many a cultivator, in whose hands a common thing becomes a thing of beauty. He would, in conclusion, couple with the toast the name of Sir Oswald Mosley, who gave much attention to both agriculture and horticulture, and whom he hoped would live long to pursue their progress. (Cheers.)

SIR OSWALD MOSLEY, Bart., in reply, said that for a certain period of his life there was nothing he detested more than horticulture and botany, as his grandfather was a great botanist, and was in the habit of taking him round the garden in order to initiate him in the study of botany, which in those days he did not appreciate. Since, however, he had grown up and had a garden of his own he had taken a great interest in horticulture, and thought one of the chief features that marked its progress was the growing interest that was taken in gardening amongst cottagers. He was pleased to see how keen these people were getting over showing. Sir Oswald went on to tell an amusing story about a man he knew who used to keep dogs. On meeting him not long since, Sir Oswald asked him if he had still got his dogs. "Oh, no," replied the man. "My old woman has gone in for flowers, and so the dogs have had to go." The working populace now, instead of spending their time in the public house, are taking more interest in gardening. He thought cottage flower shows deserved every encouragement, and amongst others who were great upholders of them he would mention the names of Lord and Lady Warwick, who were taking a commendable interest in village flower shows and kindred institutions. Sir Oswald was loudly cheered on expressing the hope in conclusion that he would have the pleasure of dining with them again.

ARNOLD MOSS, Esq., in the absence of C. Czarnikow, Esq., gave the "Committee and Stewards," and spoke highly of the work of both these bodies, also referring in commendable terms to the auxiliaries of Wolverhampton and Worcester, both of which had done so well. It gave him much pleasure to couple with the toast the name of N. N. Sherwood, Esq., whose work in connection with the Institution everyone knew.

At this point the Secretary read out the following list of subscribers—Her Majesty the Queen, £25; Messrs. Rothschild, £105; the Chairman, Lord Lathom, £25; N. N. Sherwood, Esq., £105; ditto, Stewards' list, £125; Lord Burton, £52 10s.; Messrs. Veitch & Sons, £26 5s.; Walter Cobb, Esq., £112 5s.; Sir Oswald Mosley, £10; ditto, annual subscription, £10; Duke of Bedford, £50; Baron Schröder, £25; Sir Trevor Lawrence, £21; Mr. W. Bennett, £21; Dickson's, Chester, £10 10s.; W. Thompson, Esq., £15 15s.; John Cory, Esq., £25; ditto, annual subscription, £3 3s.; Viscount Powerscourt, £10 10s.; W. Mackay, £25; J. H. White, Worcester Auxiliary, £60; Wolverhampton Auxiliary, £60; Arnold Moss, Esq., £5 5s.; Fisher, Son & Sihray, £5 5s.; Judge Philbrick, £5 5s.; making, with the sums already acknowledged, a total of £2180, the announcement of which was received with prolonged cheering.

N. N. SHERWOOD, Esq., returned thanks on behalf of the Committee and Stewards, and said that Mr. Veitch had already touched on the subjects which showed how well the work was being carried on. As one of the Stewards, he had this year approached a new circle of friends—namely, his Freemason friends, and with the usual liberality of members of that body, right nobly they had responded to the call; he, therefore, took this opportunity of thanking them, especially as they were honoured by the Presidency of the second greatest Mason in England (cheers). He (Mr. Sherwood) had never missed attending the annual dinner for twenty-five years. On his next birthday he would attain the age of fifty years, and had decided to commemorate the occasion by subscribing 100 guineas instead of his usual sum of 25 (cheers). He would conclude by thanking his Lordship on behalf of the Committee for coming amongst them that evening.

The Right Hon. VISCOUNT POWERSCOURT next rose, and said he had been reserved the greatest honour in being allowed to propose the health of the Chairman, who was a schoolfellow of his at Eton, and he knew of the good work he had done since that time in the interests of horticulture. After making some interesting references to the condition of horticulture in his own country—Ireland, his Lordship went on to say how glad he was to hear that the subscription was a record one. Everyone who possessed a garden should become a subscriber to this Institution, as gardeners deserved every encouragement, and though they had made a record, he hoped it would in the future increase still further. It was easy to see the widening interest that was being taken in gardening, but as far as Ireland was concerned, he wished the people would take more interest in it than is now the case. His Lordship dwelt at some length on his own hobby in gardening—growing Conifers,

and concluded by giving the health of the Earl of Lathom, which was received with much enthusiasm.

His Lordship, in reply, thanked those present, and congratulated them on the excellent subscription list, with the hope that next year it would be increased fourfold. He went on to speak of the various phases of gardening, including his own idea of horticulture—namely, collecting seed and plants from all parts of the world and experimenting with, an occupation which gave him infinite pleasure. His Lordship concluded by adding that he had seen many a dinner table, but never one more beautifully decorated than the one before him, and sat down amidst prolonged cheering.

The healths of the Secretary and Treasurer (Messrs. G. J. Ingram and H. J. Veitch) were drunk with fervour, and an excellent programme of music, under the direction of Mr. Herbert Schartau, rendered able assistance in making up a most enjoyable evening.

A WEEK IN LONDON.

SOME gardeners enjoy the privilege of an annual week's holiday; others less fortunate do not. In this respect I am one of the lucky ones, and though the garden of which I have charge is small, old-fashioned, and perhaps insignificant, yet thanks to the thoughtfulness of a considerate employer (would there were more of such!) I am asked as each summer rolls round, "Where I think of spending my holiday." As all readers are doubtless aware, the facilities of the average provincial gardener for visiting the metropolis are very meagre in spite of cheap and quick railway travelling, so that the trip was not decided on till after much premeditation. "A week's holiday at bedding time!" Some gardeners will say "Impossible." But it was possible with me, as hedging in our garden is not the important item it was ten years ago. Green turf reigns in the place of carpet designs, and herbaceous plants to a great extent have superseded "Geraniums" and such like.

The continued dry weather worried me it is true, and I had some misgivings about leaving; but to wait for rain would mean missing the Temple Show; so giving a long list of instructions to my right hand man (I might also add left hand too, as my other assistant is a boy), I determined to risk it, and carry out my intention of "a week in London." Like the proverbial "birds of a feather," gardeners like to flock, or at least spend holidays together; hence a chat with a horticultural friend similarly situated, and the decision to visit in company the sights of the great metropolis.

A long walk to the station, and a slow, decidedly slow, journey on a local railway preceded the more pleasant ride on the main line express. Vegetation everywhere looked charming, but want of rain was noticeable. On through the agricultural districts of the Midlands, a short pause at Leicester, then on again to Bedford, and thence through a maze of market gardens, also showing signs of drought, till eventually the iron monster steamed slowly under the great arch of St. Pancras, having, as my companion remarked, "run in to the minute." Where we lodged, and how we slept, or at least tried, for countrymen rarely sleep much in London, matters nothing, so having made up our programme we commenced next morning with

A PEEP AT THE PARKS.

There is much to interest a rustic in a London park. Take Hyde Park, for instance, with its Vanity Fair, its Rotten Row, its variety of fashion, and latterly its cyclists. Then there are the stump orators, agitators, socialists, and what not with their motley crews of listeners—all supplying food for character study—and if that rustic be a gardener there are the avenues of trees, the flowers, and general landscape—features to suit his professional taste. We regretted the spring flowers were over, and the summer bedding not completed; but we had heard of the former through the *Journal of Horticulture*, and hope in due course to hear of the latter through the same medium. Years had passed since our last visit to the metropolis; no wonder, then, we were surprised at the strides that have been made in providing public gardens—the work of the County Council we learnt. All honour, then, to a body that has been the means of transforming unsightly corners that produced nothing but rank weeds and brickhats into well-kept gardens. Gloomy, depressing-looking graveyards, too, so conspicuous in Dickens' day, where children no longer peer wonderingly through the railings at the deathly looking places, but pass inside, and play about the well-kept walks, and enjoy the now cheerful aspect.

Regent's Park did not seem to have altered much. The Botanic Gardens looked about the same—from the outside (it was not Bank Holiday, so the payment of 6d. would not admit us, gardeners though we were). We remembered the famous shows held there in bygone days, and inquired how they progressed. "They've gone down," replied our informant. "At the last summer show, and you remember what they used to be like, three parts of the classes were unrepresented." "How was it?" A shake of the head was the only reply. "Is it a mystery?" Another shake followed, and we, like many other horticulturists, were left "in the dark." A run round the Zoo followed, and, leaving out the animals, the gardens themselves were worthy of the visit. We had heard of new parks in the suburbs, such as Peckham, Dulwich, Waterlow, and so forth, and though the gardener's zeal would have led us to visit them lack of time forbade it.

THE TEMPLE SHOW.

I need not describe it, as every reader of the *Journal* knows of its magnitude, its variety, and, generally speaking, its excellence. In many

respects it has been praised, in others criticised; but all admit that the Royal Horticultural Society scored a success. I will, therefore, be content with a few points that impressed themselves on the mind of a country gardener. First of these was the Roses, some say the finest banks ever seen at a Temple show, but not being annual visitors an opinion cannot be given. They were without doubt the finest we had ever seen. We expected to see something extraordinary—countrymen always do when on a visit to London—and in truth our expectations were realised. There were Crimson Ramblers—rambling, indeed, over arches and up the tent poles—here, there, everywhere the large clusters of bright flowers were in evidence. No further illustration was necessary of the popularity of this variety than the visitors' expressions of approbation and admiration. Conspicuous though the Ramblers were, fine examples of pot Rose culture were also noticed in Mrs. John Laing, Magna Charta, Caroline Testout, Spenser, Fisher Holmes, Baroness Rothschild, and others. The arrangements, too, were good, and after close examination (there was little room for criticism) we concluded that so far as Roses were concerned the Temple show was a decided success.

Caladiums surprised us equally, and in the variety of the delicately tinted leaves could be seen unmistakeable evidence of the advance of horticulture. An artist alone could describe the colours, and to do this even his powers would be taxed, therefore I will not attempt it. Caladiums to give satisfaction should be grown on a large scale, and this also applies to exhibiting. Half a dozen plants dotted about in a miscellaneous group are scarcely noticed, but how different is a large bank like any of those shown at the Temple; how varying in size of leaves, how bewildering the complication of tints, and yet how fragile. Caladium growing in its highest aspect must be an interesting occupation, as, judging from what has already been attained, there is no telling what heights yet remain to be reached—hence the scope for the hybridiser's art. However, the future of the Caladium is safe with such growers as Messrs. Veitch, Laing, and Peed, and with them we will leave it.

Last week's Journal contains interesting notes about the Orchids at the big show, and as all was said that need be said I will not touch on them, but pass on to the well-known Worcester Clematises. "Hallo! here they are again," was overheard, as two persons, apparently gardeners, drew up before them. "I come to see them every year," he continued, "and this time they are better than ever." Fine they were, without doubt; living examples of what can be done with a Clematis in a pot. Large, globular masses of bloom almost obliterating the foliage, and comprising varying tints of blue and purple, with others pure white. There was a card on them bearing the name of Richard Smith & Co., but it hardly seemed necessary, as apparently everyone knew whose they were and whence they came, and as gardeners passed to and fro they mostly stopped in a familiar kind of manner in front of the exhibit.

As everyone knows, hardy flowers were largely shown, but with respect to them we were somewhat disappointed, and the conclusion came to was that in the first place every exhibitor of hardy flowers endeavours to obtain as much table space as he can; secondly to display as much variety as possible, with no space between; and thirdly, to squeeze the largest possible number of flowers in each vessel, irrespective of any taste in arrangement whatever. To make a large display is all very well from an advertiser's point of view, and it is only natural that the nurserymen who exhibit like to place as much as possible before the public with a view to trade, but at the same time could not a little more refinement and taste be brought to bear without in the least interfering with the chief object? As an instance of what I mean, we noticed florists' Tulips, Poet's Narcissus, Pæonies, Irises, Ixias, Lilacs, and such like, tied up in bunches as tightly as besoms, and crammed into the narrow necks of the water-holding receptacles. Supposing one-quarter the number of blooms had been used, and with them a few sprays of graceful foliage; how much more pleasing would have been the effect. Surely at a show like that of the Temple a little more attention might be paid to the arrangement of cut flowers that form such an important feature. Admired they were without doubt, but how tiring to the eye is a huge mass of flowers packed closely together, with many of the colours erroneously blended and destitute of any attempt at arrangement. It cannot be said that hardy flowers do not lend themselves for decorative purposes, then why not place them before the public to the best advantage?

Then, again, take the long monotonous lines of Pæonies, Pyrethrums, Lupins, and Irises, as shown in other instances, fixed in straight rows along green boards, with not a vestige of greenery to break the wearying sameness. Up one side the long tents and down the other hardy flowers met us everywhere, all staged in the same crowded, jumbled-up manner; and our rustic minds were led to the decision that, though the flowers themselves were beautiful, and the variety bewildering, yet the arrangement was odious, and through this the Temple show lost much that would have helped to make it perfect. The method of showing alpine plants on small artistic rockeries was evidently appreciated, and so long as the system is not overdone it has much in its favour, as the diminutive beauty of many of the rock plants cannot be seen to advantage except in their natural surroundings.

Astonishment awaited us in the fruit and vegetable portion, and I may not be wrong in saying that never before was a garden so fully represented at a flower show. Peas, Beans, Tomatoes, Melons, and Cucumbers all growing, and carrying heavy crops; not to mention other large collections. I have often marvelled at the enterprise of the modern nurseryman when scanning large and bigbly illustrated cata-

logues, but never more so than when I beheld that unique exhibit. Turning to the fruit there was a collection of eighty varieties of Apples, as firm and bright as one generally sees them in October—a capital illustration of the keeping qualities of the best of English fruit. From the latest of last year to the earliest of this seems like travelling backwards, but I must accord a word to the superb collection of forced Nectarines, which was prominent even amidst a gorgeous display of Orchids and Roses. To speak of Early Rivers means something early indeed, but when we learnt that Cardinal came in even ten days before that, well it makes one wonder whether we shall not eventually have Nectarines all the year round. Somebody remarked on the cost of forcing Nectarines, and wondered if it paid. We couldn't say of course, but learnt that three of the pyramids bore 100 fruits, which fetched 30s. per dozen in Covent Garden, and drew our own conclusions.

These are but a few of the items of interest, and the greatest difficulty when writing about a Temple show is to know when to stop. At such a place "where gardeners most do congregate" there were unexpected meetings with old acquaintances, followed by talks of old times, arguments about the exhibits, and so forth. In this manner the pleasant day soon sped by, evening came on apace, and with it the time of closing—as I also must close for the present, and resume my story in a future issue.—A COUNTRY GARDENER.

(To be continued.)

STENOGASTRA CONCINNA.

THE specimen sent by "R. P. G." is of this attractive little stove plant, though it is by no means so showy as some of its relatives in the



FIG. 85.—STENOGASTRA CONCINNA.

Gesneria family. But the interest of plant houses does not solely depend on occupants with large or brilliant flowers, and sometimes a neat little plant like this *Stenogastria* (fig. 85) is quite as much admired as those of more striking character. The leaves are small and oval, the growths short, and the flowers rise in slender stalks only an inch or two above the soil. They have a narrow funnel-like tube, with an expanded limb of five lobes—the two upper very dark purple, the lower a lighter shade of purplish lilac and white, a dark stripe running down the upper part of the tube outside, and inside are numerous dark spots. Flowers are produced freely, and clustered over the plant have a pleasing appearance.

PEAS AND NITROGEN.

ALTHOUGH science helps the gardener in myriads of useful ways, yet it is most evident that practical experience proves to be the best guide in work. When intelligence with sound knowledge enables both to be blended, then so much the better. Now there is much well worth knowing in a scientific way in relation to the capacity of the Pea plant to furnish its own nitrogen through leaf and root nodule agency, and it is now generally held that the application of nitrogenous manures to pulse-bearing plants is waste, at least it is so held scientifically.

But the gardener, as a rule, does not admit that, for he invariably employs strong nitrogenous manures for these crops, at least of such strength as is found in animal manures, and the fact that the plants so utilise these nitrogenous compounds is evident enough when compared with the growth seen under similar conditions but with nitrogen absent. I have noticed this undoubted fact frequently, and my faith in the

capacity of the Pea plant, in spite of what Science teaches, to furnish its own meed of nitrogen is somewhat shaken. I regard the plant's action in this way. Assuming that everything in relation to this matter scientifically taught is correct, yet my practical knowledge enables me to see that the presence in the soil of actual nitrogen conduces at once to very early robust stem growth and leaf production.

The result is the area of future nitrogen creation capacity is almost doubled, and hence great benefit to the crops result. We see this, indeed, in the case of Peas and Runner Beans grown liberally—that is, where heavily manured and ample moisture is furnished. Even when in full pod, at a time when the creation of leaf nitrogen might be assumed to be proceeding apace, nitrogenous liquids as manure are rapidly absorbed and utilised and the cropping powers of the plants greatly prolonged. No doubt it is rather hard on science thus to assume that she is not quite exact, though I am really not doing so. No one will dispute the nitrogen creation theory, but still, in the matter of teaching, it does need to be modified by our practical experience.

Such a dry season as is the present, where there was a general absence of nitrogen in soils or applied manures, Pea growth has been poor, and the plants will not be very great croppers. Where there was added to the soil a liberal supply of nitrogenous manure growth has been, in spite of the drought, remarkably good, the greater leaf area produced proving most useful in strengthening root action, a matter of the highest importance in relation to after cropping.—A. D.

NORTHERN TULIP SOCIETIES' SHOWS.

ROYAL NATIONAL TULIP SOCIETY.

THE annual northern exhibition of this Society was held on Tuesday, May 26th, in the Free Library, Middleton, near Manchester. The flowers all came from Lancashire and Yorkshire growers, as those of the southern members were long past their best. The month of May has again upset all calculations, and the grower has had to make the best of a mixture of intense heat, hailstorms, rain followed by keen frost, and a liberal allowance of cold, rough winds. The flowers have done their best amongst it all, but naturally have not been able to realise the fond anticipations of their owners. Feathered flowers have been especially disappointing, mostly coming blotched and generally out of character; flamed flowers were in much better condition, and breeders were in average style.

There were few novelties of note. Mr. Morris brought some good feathered roses, broken from the late Mr. Collier's seedlings, which will be a valuable addition to this scarce class. Mr. Bentley showed a fine flamed bybloemen Sarah Lloyd, broken from one of the late Mr. Lloyd's seedlings. Mr. Mellor had a beautiful feathered bybloemen Mrs. Mellor, broken from the late Mr. George Hardwick's seedlings. Charles H. Hopwood is a fine heavily feathered scarlet bizarre. Attraction, a correctly feathered red bizarre, something in the way of Lord Frederick Cavendish, but with a better cup.

The Judges were Messrs. Simonite (Sheffield), Housley and Booth (Stockport), and Woodhead (Staleybridge), whose decisions gave general satisfaction. They will pardon us, however, if we remind them that purity is the great essential quality in the Tulip, and one or two of their decisions would have received some stinging criticism had the late George Glenny been alive to administer it.

In the contest for the championship or cup class the fight lay between those old friends and opponents Messrs. Needham and Bentley, but the latter was able to get the advantage and win the cup for the third year in succession, although his rival was but little behind him. The premier feather was Mrs. Cobden, a bybloemen raised by Mr. Hepworth; the flower was a good one, but the variety cannot be called first rate, and is rarely seen in such style. Sir Joseph Paxton was again the best flamed flower, and that large and fine variety Rose Hill obtained the distinction of being the best breeder exhibited. A full list of the awards of the judges follows.

RECTIFIED TULIPS.

Class 1. *Twelve dissimilar Tulips, two feathered and two flamed in each class.*—First, Mr. James W. Bentley, Stakehill, Middleton, with a bright attractive stand of well-matched flowers, comprising Madame St. Arnaud and Industry, feathered roses; Mabel and Aglaia, flamed roses; Mrs. Cobden and Bessie, feathered bybloemens; Sarah Lloyd and Talisman, flamed bybloemens; Garibaldi and Magnum Bonum, feathered bizarres; Sir Joseph Paxton and Dr. Hardy, flamed bizarres. Second, Mr. Charles W. Needham, Royley, Royton, with a stand of well-grown blooms, including Alice and Mrs. Atkin, feathered roses; Triomphe Royale and Madame St. Arnaud, flamed roses; Elizabeth Pegg and Bessie, feathered bybloemens; Talisman and George Edward, flamed bybloemens; Attraction and Sir Samuel Romilly, feathered bizarres; Sir Joseph Paxton and Samuel Barlow, flamed bizarres. Third, Mr. Alfred Moorhouse, Wakefield, with Annie McGregor and Alice, feathered roses; Mabel and Aglaia, flamed roses; Mrs. Hepworth and Coningsby, feathered bybloemens; Queen of the May and Talisman, flamed bybloemens; Sir Joseph Paxton and Typo, feathered bizarres; Sir Joseph Paxton and Toxophilite, flamed bizarres. Fourth, Mr. John H. Wood, Middleton, with Modesty and Heroine, feathered roses; Aglaia and Lady C. Gordon, flamed roses; Bessie and Violet Amiable, feathered bybloemens; Nimbus and Duchess of Sutherland, flamed bybloemens; Masterpiece and Sir Joseph Paxton, feathered bizarres; Dr. Hardy and Sir Joseph Paxton, flamed bizarres. Fifth, Mr. Wm.

Kitchen, Marple, with Modesty and Olio, feathered roses; Triomphe Royale and Annie McGregor, flamed roses; Violet Amiable and John Hart, feathered bybloemens; Talisman and Trip to Stockport, flamed bybloemens; Sulphur and Masterpiece, feathered bizarres; Sir Joseph Paxton and Dr. Hardy, flamed bizarres.

Class 2. *Six dissimilar Tulips one feathered and one flamed in each class.*—First, Mr. William Mellor, Wakefield, with Mrs. Atkin, feathered, and Annie M'Gregor, flamed roses; Mrs. Mellor, feathered, and Talisman, flamed bybloemens; Lord Fredk. Cavendish, feathered, and Sir Joseph Paxton, flamed bizarres. Second, Mr. J. W. Bentley, with Madame St. Arnaud, feathered, and Annie M'Gregor, flamed roses; Bessie, feathered, and Talisman flamed bybloemens; James M'Intosh, feathered, and Sir Joseph Paxton, flamed bizarres. Third, Mr. Needham with Heroine, feathered, and Madame St. Arnaud, flamed roses; William Parkinson, feathered, and Talisman, flamed bybloemens; Attraction, feathered, and Sir Joseph Paxton, flamed bizarres. Fourth, Mr. James Jones, Denton, with Heroine, feathered, and an unnamed variety, flamed roses; Bertha, feathered, and Lord Denman, flamed bybloemens; Sir Joseph Paxton, feathered, and also flamed bizarres. Fifth, Mr. Kitchen, with Olio, feathered, and Annie M'Gregor, flamed roses; Violet Amiable, feathered, and Lord Denman, flamed bybloemens; Lord Lilford, feathered, and Charles X., flamed bizarres. Sixth, Mr. Moorhouse, with Alice, feathered, and an unnamed variety, flamed roses; Coningsby, feathered, and Talisman, flamed bybloemens; Field Marshal, feathered, and Sir Joseph Paxton, flamed bizarres. Seventh, Mr. Wood, with Heroine, feathered, and Mabel, flamed roses; Talisman, feathered, and Duchess of Sutherland, flamed bybloemens; Sir Joseph Paxton, feathered, and Dr. Hardy, flamed bizarres. Eighth, Mr. William Dymock, Stockport, with Heroine, feathered, and Annie M'Gregor, flamed roses; John Hart, feathered, and also flamed bybloemens; Lord Lilford, feathered, and Dr. Hardy, flamed bizarres.

Class 3. *Six dissimilar Tulips, one feathered and one flamed in each class, for small growers only.*—First, Mr. John Morris, Middleton, with Mrs. Collier, feathered, and Madame St. Arnaud, flamed roses; Adonis, feathered, and Chancellor, flamed bybloemens; John Ratcliffe, feathered, and Dr. Hardy, flamed bizarres. Second, Mr. Harry Gill, Wakefield, with Heroine, feathered, and Mabel, flamed roses; Adonis, feathered, and Lord Denman, flamed bybloemens; George Hayward, feathered, and Sir Joseph Paxton, flamed bizarres. Third, Mr. Thomas Fitton, Stakehill, with Industry, feathered, and Annie McGregor, flamed roses; Mrs. Cooper, feathered, and Martin's 117, flamed bybloemens; Lord Lilford, feathered, and Sir Joseph Paxton, flamed bizarres.

Class 4. *Three feathered Tulips one in each class.*—First, Mr. Moorhouse, with Annie McGregor, Mrs. Hepworth, and Field Marshal. Second, Mr. Bentley, with Alice, Mrs. Jackson, and Sir Joseph Paxton. Third, Mr. Mellor, with Alice, Coningsby, and Lord F. Cavendish. Fourth, Mr. Kitchen, with Aglaia, Violet Amiable, and Sir Joseph Paxton. Fifth, Mr. Gill, with Heroine, Adonis, and Masterpiece. Sixth, Mr. Jones, with Alice, Bertha, and Lord Lilford.

Class 5. *Three flamed Tulips, one in each class.*—First, Mr. Morris, with Mabel, Talisman, and Dr. Hardy; second, Mr. Bentley, with Mabel, Duchess of Sutherland, and Sir J. Paxton; third, Mr. Kitchen, with Madame St. Arnaud, Talisman, and Sir J. Paxton; fourth, Mr. Wood, with Triomphe Royale, Surpass-le-Grand, and Sir J. Paxton; fifth, Mr. Needham, with Mabel, Duchess of Sutherland, and Dr. Hardy. Sixth, Mr. Mellor, with Mary Jackson, Talisman, and Sir J. Paxton.

Class 6. *Two Tulips, one feathered and one flamed, of any class. Maiden growers only.*—First, Mr. E. Shaw, Moston, with Masterpiece, feathered, and Talisman, flamed.

Class 7. *Two Tulips, one feathered, and one flamed, of any class.*—First, Mr. Bentley, with Garibaldi, feathered, and Sir J. Paxton, flamed; second, Mr. Morris, with Masterpiece, feathered, and Sir J. Paxton, flamed; third, Mr. Gill, with Wm. Wilson, feathered, and Sir J. Paxton, flamed; fourth, Mr. Moorhouse, with Coningsby, feathered, and Lord Denman, flamed; fifth, Mr. Mellor, with Violet Amiable, feathered, and Mabel, flamed; sixth, Mr. Kitchen, with Trip to Stockport, feathered, and Adonis, flamed.

Class 8. Single Blooms.—

Feathered Bizarres.

- 1 Mr. Bentley, with Charles H. Hopwood
- 2 Mr. Morris, with Sulphur
- 3 Mr. Morris, with John Ratcliffe
- 4 Mr. Bentley, with Sir Jos. Paxton
- 5 Mr. Morris, with Seedling
- 6 Mr. Needham, with Wm. Annibal
- 7 Mr. Bentley, with Commander
- 8 Mr. Bentley, with Lord Lilford
- 9 Mr. Bentley, with Lord Stanley
- 10 Mr. J. Cliff, with John Moody

Feathered Bybloemens.

- 1 Mr. Moorhouse with Bessie
- 2 Mr. Bentley, with Wm. Parkinson
- 3 Mr. Jones, with Bertha
- 4 Mr. Bentley, with Adonis
- 5 Mr. Needham, with Mrs. Cooper
- 6 Mr. Needham, with Elizabeth Pegg
- 7 Mr. Bentley, with Mrs. Jackson
- 8 Mr. Mellor, with Coningsby
- 9 Mr. Bentley, with Queen of the May
- 10 Mr. Kitchen, with Bien Fait

Feathered Roses.

- 1 Mr. Morris, with Seedling
- 2 Mr. Morris, with Sarah Ann
- 3 Mr. Gill, with Heroine
- 4 Mr. Needham, with Mrs. Lea
- 5 Mr. Bentley, with Alice
- 6 Mr. Morris, with Industry
- 7 Mr. Dymock, with Lizzie
- 8 Mr. Morris, with Mrs. Collier
- 9 Mr. Mellor, with Agnes Mellor
- 10 Mr. Bentley, with Miss Edwards

Flamed Bizarres.

- 1 Mr. Bentley, with San José
- 2 Mr. Needham, with Sir J. Paxton
- 3 Mr. Wood, with Wm. Lea
- 4 Mr. Wood, with Dr. Hardy
- 5 Mr. Wood, with Masterpiece
- 6 Mr. Wood, with Wm. Wilson
- 7 Mr. Bentley, with Cyril
- 8 Mr. Bentley, with Storer's Seedling
- 9 Mr. Jones, with Sulphur
- 10 Mr. Kitchen, with San José

Flamed Roses.

- 1 Mr. Needham, with Vicar of Radford
- 2 Mr. Bentley, with Annie McGregor
- 3 Mr. Bentley, with Madame St. Arnaud
- 4 Mr. Kitchen, with Mabel
- 5 Mr. Needham, with Lady Sefton
- 6 Mr. Jones, with Industry
- 7 Mr. Wood, with Triomphe Royale
- 8 Mr. Kitchen, with Minerva
- 9 Mr. Kitchen, with Queen Ann
- 10 Mr. Kitchen, with Bertha

Class 9. *The best feathered Tulip in the whole exhibition.*—Mr. Bentley with Mrs. Cobden in his stand of twelve. *The best flamed Tulip in the whole exhibition.*—Mr. Needham with Sir Joseph Paxton in his stand of twelve.

BREEDER TULIPS.

Class 10. *Six dissimilar Breeders, two of each class.*—First, Mr. Bentley, with Rose Hill and Mrs. Barlow roses, Glory of Stakehill and Talisman bybloemens, Lloyd's 155 and Sir Joseph Paxton bizarres. Second, Mr. Needham, with Mdme. St. Arnaud and Mabel roses, Talisman and Beauty of Litchurch bybloemens, Sir Joseph Paxton and Lloyd's 210 bizarres. Third, Mr. Kitchen, with Olivia and Rose Hill roses, Glory of Stakehill and William Parkinson bybloemens, Dr. Hardy and Willison's King bizarres. Fourth, Mr. Mellor, with Annie McGregor and Mdme. St. Arnaud roses, Talisman and George Hardwick bybloemens, Richard Yates and Dr. Hardy bizarres. Fifth, Mr. Moorhouse, with Tom Parker and Miss B. Coutts roses, two unnamed bybloemens, and Sulphur and Sir J. Paxton bizarres. Sixth, Mr. Wood, with Annie McGregor and Mabel roses, Mrs. Cooper and Storer's 126 bybloemens, Sir Joseph Paxton and Sulphur bizarres.

Class 11. *Three Breeder Tulips, one of each class.*—First, Mr. Bentley, with Mrs. Barlow, Talisman, and Sir Joseph Paxton. Second, Mr. Gill, with Mdme. St. Arnaud, unnamed, and Sir Joseph Paxton. Third, Mr. Jones, with Unknown, Bridesmaid, and Sulphur. Fourth, Mr. Shaw, with A. McGregor, Talisman, and Sir Joseph Paxton. Fifth, Mr. Morris, with Seedling, Adonis, and Dr. Hardy. Sixth, Mr. Moorhouse, with unnamed varieties. Seventh, Mr. Needham, with Mdme. St. Arnaud, Beauty of Litchurch, and Sir Joseph Paxton. Eighth, Mr. Wood, with A. McGregor, Mrs. Cooper, and Horatio.

Class 12. *Single Blooms.*—*Bizarre Breeders.*

- 1 Mr. Jones with Sulphur
- 2 Mr. Bentley, with Wm. Wilson
- 3 Mr. Jones, with Lord Frederick Cavendish
- 4 Mr. Mellor, with Sir Jos. Paxton
- 5 Mr. Bentley, with Goldfinder
- 6 Mr. Needham, with Lloyd's 208
- 7 Mr. Moorhouse, with Unknown
- 8 Mr. Mellor, with Sulphur

Bybloemen Breeders.

- 1 Mr. Cliff, Leeds, with Parker's King
- 2 Mr. Needham, with Bridesmaid
- 3 Mr. Jones, with Sarah
- 4 Mr. Bentley, with Lloyd's 137

Rose Breeders.

- 1 Mr. Morris, with Mrs. Barlow
- 2 Mr. Morris, with Collier's Seedling
- 3 Mr. Morris, with Collier's Seedling
- 4 Mr. Kitchen, with A. McGregor
- 5 Mr. Needham, with Madame St. Arnaud
- 6 Mr. Gill, with Miss B. Coutts
- 7 Mr. Jones, with Martin's No. 2
- 8 Mr. Bentley, with Rose Hill

Bybloemen Breeders.

- 5 Mr. Moorhouse, with Unnamed
- 6 Mr. Bentley, with Elizabeth Pegg
- 7 Mr. Moorhouse, with Unnamed
- 8 Mr. Gill, with Elizabeth

Class 12. *The best breeder Tulip in the whole exhibition.*—Mr. Bentley, with Rose Hill, in his stand of six.

BUTLEY TULIP SOCIETY.

THE seventy-first annual show of this old-established Society was held at the Orange Tree Inn, Butley, near Macclesfield, on Friday, May 29th. Although there are now no exhibitors in Butley itself, there was a large number of good flowers shown, and the show was well attended by Lancashire growers, who look forward to a day spent in the beautiful and interesting district in which Butley is situated with much pleasurable anticipation. There is also much more leisure than at the National for the discussion of the points of the flower, and for that social intercourse that does so much to make life in smoke-grimed Lancashire tolerable.

The great prize at Butley is a silver cup (given this year by that veteran exhibitor and true florist, Mr. William Kitchen of Marple) for a stand of six rectified Tulips, one of each class. Everybody stages for the cup, and after the award is made the beaten stands are broken up, and the flowers composing them judged in the classes. The fortunate exhibitor was this year Mr. Charles W. Needham, of Royley, Royton, whose flowers were clearly better than any of his competitors. His examples were Mrs. Mellor, feathered bybloemen; Talisman, flamed bybloemen; Mrs. Atkin, feathered rose; Mabel, flamed rose; Attraction, feathered bizarre; Sir Joseph Paxton, flamed bizarre. The Judges (Messrs. Housley and Booth (Stockport) and Mr. R. Chadwick (Butley)), also made the following awards:—

Feathered Bizarres.

- 1 Mr. Kitchen, with Masterpiece
- 2 Mr. Bentley, with James McIntosh
- 3 Mr. Bentley, with Sir J. Paxton
- 4 Mr. Bentley with Chas. H. Hopwood
- 5 Mr. Morris, with John Ratcliffe
- 6 Mr. Bentley, with Garibaldi
- 7 Mr. Bentley, with Magnum Bonum
- 8 Mr. Bentley, with Commander
- 9 Mr. Jones, with Charlie Flather

Flamed Bizarres.

- 1 Mr. Bentley, with Sir J. Paxton
- 2 Mr. Kitchen, with Sir J. Paxton
- 3 Mr. Bentley, with Dr. Hardy
- 4 Mr. Morris, with John Ratcliffe
- 5 Mr. Wood, with Polyphemus
- 6 Mr. Bentley, with San José
- 7 Mr. Bentley, with Wm. Wilson
- 8 Mr. Jones, with Richard Yates
- 9 Mr. Jones, with Sulphur

Feathered Roses.

- 1 Mr. Morris, with Mrs. Collier
- 2 Mr. Bentley, with Madame St. Arnaud
- 3 Mr. Wood, with Lizzie
- 4 Mr. Bentley, with Industry
- 5 Mr. Bentley, with Mrs. Atkin
- 6 Mr. Morris, with Sarah Ann
- 7 Mr. Needham, with Heroine
- 8 Not awarded
- 9 Not awarded

Feathered Bybloemens.

- 1 Mr. Jones, with Bertha
- 2 Mr. Kitchen, with Violet Amiable
- 3 Mr. Jones, with Bertha
- 4 Mr. Bentley, with Mrs. Cobden
- 5 Mr. Bentley, with Wm. Parkinson
- 6 Mr. Bentley, with Mrs. Jackson
- 7 Mr. Bentley, with Adonis
- 8 Mr. Needham, with Queen of the May
- 9 Mr. Kitchen, with John Hart

Flamed Roses.

- 1 Mr. Needham, with Mabel
- 2 Mr. Kitchen, with Annie McGregor
- 3 Mr. Needham, with Mabel
- 4 Mr. Kitchen, with Madame St. Arnaud
- 5 Mr. Bentley, with Clio
- 6 Mr. Bentley, with Ciree
- 7 Mr. Wood, with Lady C. Gordon
- 8 Mr. Dymock, with Lizzie
- 9 Mr. Kitchen, with Minerva

Flamed Bybloemens.

- 1 Mr. Morris, with Lord Denman
- 2 Mr. Morris, with Lord Denman
- 3 Mr. Kitchen, with Adonis
- 4 Mr. Bentley, with Mrs. Ramsbottom
- 5 Mr. Wood, with Unknown
- 6 Mr. Dymock, with John Hart
- 7 Mr. Kitchen, with Talisman
- 8 Mr. Bentley, with Duchess of Sutherland
- 9 Mr. Bentley, with Sarah Lloyd

Mr. Needham won the prize for the best feathered flower, with Mrs. Atkin; and Mr. Morris for the best flamed flower, with Lord Denman.

BREEDER TULIPS.

Three Breeders.—First, Mr. Bentley with Rose Hill, Beauty of Litchurch, and Hepworth's 94/64. Second, Mr. Needham with Madame St. Arnaud, Beauty of Litchurch, and Sir J. Paxton. Third, Mr. Wood with Mabel, Boardman's No. 1, and Sir J. Paxton.

Bizarres.

- 1 Mr. Bentley, with Lloyd's 155
- 2 Mr. Bentley, with Wm. Wilson
- 3 Mr. Bentley, with Sir Jos. Paxton
- 4 Mr. Bentley, with Lloyd's 131
- 5 Mr. Jones, with Sulphur

Roses.

- 1 Mr. Bentley, with Mrs. Barlow
- 2 Mr. Bentley, with Hepworth's 9/64
- 3 Mr. Bentley, with Annie McGregor
- 4 Mr. Kitchen, with Lady Grosvenor
- 5 Mr. Morris, with Collier's Seedling

Bybloemens.

- 1 Mr. Bentley, with Parker's King
- 2 Mr. Needham, with Beauty of Litchurch
- 3 Mr. Bentley, with Ashmole's 129
- 4 Mr. Needham, with Martin's 117
- 5 Mr. Bentley, with Lloyd's 161

Sells.

- 1 Mr. Bentley, with Cygnet
- 2 Mr. Needham, with Citronella

After the judging the members dined together, Mr. J. W. Bentley, President of the Society, occupying the chair.



HARDY FRUIT GARDEN.

Outdoor Figs.—As growth is now proceeding freely it is essential that there be no overcrowding. It is better to disbud early, and dispense gradually with all superfluous shoots. Every shoot is of the latter character that cannot have its leaves fully exposed to sunshine, hence arises the necessity of removing such either by the less checking method of disbudding when shoots are a few inches long, or the severer operation of cutting them out after a somewhat lengthened period of growth. Only one crop of Figs can be secured outdoors, and this will be borne on the previous year's shoots towards the extremities.

The wood growth beyond the fruit must be continued until several leaves are formed, when the shoots require pinching in order to restrict undue extension, as well as to concentrate the vigour in the fruit, the leaves remaining serving to draw sap to the fruit. After the fruit has been gathered the bearing shoots must be cut out, making room for training in successional growths, such shoots being selected at the present time in suitable parts of the trees, and given every chance of perfecting their development during the season, but not pinching or stopping in any way. Rub or cut out any gross or sappy wood which may appear.

Raspberries.—Where an unusual number of suckers present themselves, it is essential to reduce their number to about six of the best placed for future training in. Those springing up at a distance away are better dug up cleanly, and removed if not wanted for increasing stock. The soil between the rows may be mulched with manure. Destroy weeds, hoeing down the small plants, and forking up deep-rooted specimens.

Strawberries.—Mulch the latest beds or any not previously treated. Short or long lengths of clean straw are also very useful in keeping the fruit clean. Water and liquid manure may be freely supplied to beds with the fruit swelling. The moisture will also favour the production of runners of a strong and vigorous character. Plantations of Strawberries formed this spring ought to have the bloom removed so that the plants may be strengthened.

Currants.—Shorten the young side shoots of Red and White Currants at the third joint. This will assist the main leaves in strengthening the

basal buds, and admit air and light to the racemes of fruit now swelling freely. Mulch the soil over the roots with manure, and afford several good soakings of water or liquid manure. The leading shoot of each branch ought not to be shortened. Black Currants require no pruning at the present time. Rich nourishment, consisting of liquid manure, will greatly assist the perfecting of the crop of fruit, also promote the production of strong young shoots for the next season's fruiting.

Plums and Cherries.—Wherever there is room to train in a vigorous shoot lay such in the proper direction. Superfluous and ill-placed shoots cut out entirely. Foreright shoots may be shortened to form spurs, leaving three good leaves. Attend well to the training of young trees, so as to lay a neat, firm foundation of branches. A considerable amount of regulation will be required where the growth is strong, in order that the strength of the branches may be equalised. Trees growing weakly receive some impetus to growth if the soil is moistened and enriched with a little liquid manure. Daily syringings in fine weather promote freedom from insect pests, which always check growth.

Peaches, Nectarines, and Apricots.—Cold, cutting east winds are very trying to these trees on walls, should they happen to be growing in a more than usually exposed angle, where the force of the wind catches them. It is the main cause of blistered leaves as well as attacks of aphides, which follow as a result of checks to growth. In such situations some means should be afforded to provide a permanent screen or break from the cold winds, but it is really best to plant on a full south-west aspect.

In thinning out the young growths remove those which are the worst affected if possible. Pinch off blistered leaves which cannot prove of further service. Cleanse the points of shoots overrun with aphides. The successional growths must be carefully trained in selecting those from the base of the present fruiting shoot. Young growth above the fruit must be allowed to attract sap to the fruit, the extension of the leader effectually doing this, but before the shoot lengthens too far pinch it at the third leaf, and the lateral growth resulting at the first leaf. Shoots that cannot be laid in easily as successional or to fill vacancies will be better cut out entirely, though a moderate number may be pinched at the third leaf to form spurs.

Thin the fruit gradually, leaving more on the strong and vigorous parts of trees than on the weaker. The final thinning may be completed as the fruits attain to the size of Walnuts; just at this period the stoning process commences.

Apples and Pears.—Apples have set freely, and promise to be a good crop, but thinning the fruit is highly desirable on bushes and low standards. The same applies to Pears where the fruits are numerous. The weakest fruits in a cluster ought first to be removed, those taking a lead in swelling being reserved, finally reducing to one or two on a spur. Thin young shoots if crowded. It is better to remove them now than that they should obstruct the light from others.

FRUIT FORCING.

Vines.—*Early House.*—As soon as the Grapes are cleared from the Vines give the inside borders a thorough supply of water and nourishment. This will encourage the root action so essential to the activity of the laterals, which, if allowed moderate extension, is the best preventive of premature ripening of the foliage, while it helps to plump the buds, and to store assimilated matter in the adjacent wood. Syringe thoroughly to cleanse the foliage of dirt and insects, and repeat occasionally or as found necessary to keep the old or main leaves healthy. Keep the ventilators open constantly, except in very cold weather, and even then some ventilation is advisable. Fresh laterals will soon be produced, and it is desirable to maintain an even growth all over the Vines. The mulching or covering on outside borders having been removed, with just sufficient of the lighter part left to protect the roots, a good watering with liquid manure or water, following with a top-dressing of some fertiliser to be washed in, should no rain fall.

Second Early House.—Vines started at the new year have the Grapes ripe where the crops are not more than can be finished satisfactorily. Black Hamburgh has done singularly well, the berries being large and black as jet, with a fine bloom. Buckland Sweetwater has also done capitally, the rich golden amber contrasting finely with the Black Hamburgh. Where the Vines are heavily cropped and have been forced for the first time the Grapes are not yet finished. If there is likely to be any want of this allow the Vines time by giving as long a rest at night as possible. Maintain, however, a circulation of warm, rather dry air constantly, increasing the ventilation early. Damping the floors on hot days will check excessive evaporation, and with the temperature falling to 60° at night and 65° when warm, with sufficient warmth in the pipes to prevent moisture condensing, no harm will ensue, but the day temperature should be kept at 70° to 75°. If found necessary give the border a thorough soaking in the morning of a fine day, and afterwards mulch with a little light material. This will probably be sufficient to keep the border moist until the Grapes are cut, if not it must be repeated. Moderate moisture, even after the Grapes are ripe, is essential to the health of the foliage. To prevent the colour being taken out of Hamburghs a double thickness of herring nets should be drawn over the roof lights. When ripe a minimum temperature of 60° will be sufficient. Allow a moderate extension of the laterals to encourage root action, but keep gross laterals well in check so as to cause an equal distribution of the sap.

Early Muscat Houses.—The fruit of Vines started early in January

is colouring, and a somewhat drier condition of the atmosphere is advisable as compared with Black Hamburgh Muscat of Alexandria must have time to ripen and acquire the rich golden colour so much prized. The Muscats, however, are gross feeders, and cannot endure deficiency of moisture at the roots or lack of nourishment. Provide a circulation of air constantly, preventing the moisture condensing on the berries by sufficient warmth in the pipes to insure a changing atmosphere. Lateral extension is the best safeguard against shanking at this stage, along with a steady temperature. Keep the night temperature at 65° to 70°, 80° to 85° by day with a little sun, and 90° to 95° with it in full force. Ventilate early, and regulate by the sun's increase, and so with its decline, reduce early, securing as long a day of ripening from sun heat as possible. The old leaves of early started Muscats are liable to be scorched under powerful sun, as also are the berries at the upper side of the bunches. It is advisable to draw a single thickness of tanned net over the roof lights, which, without impeding too much light, will prevent injury to the foliage and fruit.

Midseason Houses.—Vines in these will be in various stages of development, according to the time of starting. Those that have stoned will be swelling the berries fast, and the borders should have the needful supplies of water and nourishment. The drainage being good, the watering, whether with water or liquid manure, will need to be continued weekly if the border is limited to a small area, or fortnightly intervals until the Grapes are somewhat advanced in colouring, when it must be stopped; yet the border must not be allowed to become so dry as to affect the foliage injuriously. Admit a little air constantly at the apex, and ventilate freely in the early part of the day, closing early with sun heat and a genial condition of the atmosphere. Fire heat will be necessary to secure 60° to 65° at night, and 70° to 75° by day, keeping through the day at 80° to 85°, and closing sufficiently early to rise to 90° or 95°. This will insure the berries swelling to a good size, and with a free circulation of air a good finish may be secured.

Newly Planted Vines.—Every encouragement should be given these to make a sturdy growth. The borders will need copious supplies of water, yet there must be no excess. A light mulching around the stems will encourage roots from the collar. Syringe on fine afternoons and close early. Let the canes extend to a length of 9 or 10 feet before stopping, then continue a growth from the extremity, and let it grow with whatever laterals it may until September, then shorten them by degrees so as to have them entirely removed by the time the principal leaves are maturing. Pinch the laterals up to the extent of stopping the cane at the first leaf, and let the sub-laterals extend, but keep them clear of the principal leaves, and treat them as advised for those on the cane above the stopping. This growth will cause the stem to thicken and form free channels, through which the sap can be rapidly transmitted. Cut the cane down to three good buds from the bottom wire of the trellis at the winter pruning, and then the Vines will push sturdy growth the following year. Supernumeraries should have the laterals pinched to one leaf as produced, and the primary at 6 to 9 feet. The laterals issuing from the extremity should be pinched to one or two leaves each time those are made. All this cane requires is cutting off the laterals in September, and shortening to the first plump bud below the stopping. The laterals must not be cut off close to the cane until growth has ceased, and the principal leaves should be left on the cane as long as possible.

Cucumbers.—When the night temperature can be prevented falling below 65° artificial heat may be dispensed with, making the most of sun heat by early closing. Look over the plants twice a week, well thinning out the old growths, and training in young in order to maintain an unbroken succession of fruit. Supply liquid manure twice a week, and afford top-dressings of rich material occasionally. Syringe only in the afternoon, but damp in the morning and through the day, so as to maintain a good moisture in the house. With the ends of the houses north and south a slight shade becomes necessary, as from 4 to 5.30 in the afternoon there is danger of the foliage being scorched. Pits and frames should be closed at 3 to 4 P.M., assisting plants in bearing with liquid manure, but keeping it from the foliage.

Where plants are enfeebled by bearing top-dress with lumpy loam, and layer some of the younger growths at a joint, from which roots will be emitted, and strengthen the succeeding growths. Attend to the ventilation early so as not to let the sun act on the foliage whilst it is wet so as to scorch, nor let the temperature rise to a high degree, and then admit a quantity of air and produce a chill, which causes stunted fruits, many of which turn yellow at the ends instead of swelling.

THE FLOWER GARDEN.

Planting Newly Cleared Beds.—Wallflowers, Forget-me-nots, Saponarias, Silenes, and such like greatly impoverish the ground, and when they are cleared off, the beds are usually in a very dry state. Zonal Pelargoniums, Petunias, Marguerites, and Tropaeolums if planted somewhat thickly will succeed fairly well on poor dry ground, but the majority of summer bedding plants present a much-starved appearance unless more liberally treated at the roots. Newly cleared beds then ought to have a good dressing of short manure well mixed with the top spit, and if dry and hard water should be freely applied in the evening previous to the day of planting. Thus treated the soil will break down finely, and the planting can then be done properly and quickly. Solid manure is preferable to any kind of special or liquid manure, as it serves to retain moisture longer in the bed, but if not available, either of the latter should be applied, and in the course of about a fortnight a

mulching of either short grass from the mowing machine, leaf soil, or cocoa-nut fibre refuse should be given.

Tuberous Begonias.—These thrive best when planted in well enriched soil and a somewhat cooler position than their old rival, Zonal Pelargonium, delights in. They transplant readily from the boxes of soil in which they were started, and soon become showy, a rainy season not much affecting them. They are most effective in masses, edged, say, with either Lobelias, Mesembryanthemums, or Golden Pyrethrum. Strong plants should be placed not less than 9 inches apart each way, and those with one stem only, or young seedlings, about 6 inches apart. Should there be a scarcity of plants, or if a change of style is desirable, they may be disposed farther apart, between or among them being planted either Lobelias or Mesembryanthemum cordifolium variegatum. These, in addition to forming a neat groundwork, also serve to keep the ground cooler and more moist than it otherwise would be. The old Begonia weltoniensis succeeds well planted out, and a trial may well be given to Begonia Carrièrei.

Coleuses.—The rich velvety crimson Coleus Verschaffelti can ill be spared from a summer arrangement. It is suitable for banding gold or silver variegated Zonal Pelargoniums with an outer edging of blue Lobelia, but is far more effective massed in the centre of a bed edged with a broad band of dwarf golden-leaved Pelargonium. The latter, or any other edging used, may be planted at once, but the Coleus ought not to be planted before the second week in June, or even later in most localities. It should be put out sufficiently thick to cover the ground at once, and a warm and light rather than a rich soil best suits it.

Heliotropiums.—These are again somewhat tender, and ought therefore to be carefully hardened and planted later. The dark varieties are very effective when massed in the centre of a bed and surrounded by a sturdy growing silver variegated Zonal Pelargonium. They ought also to be freely introduced into mixed and ribbon borders, and they form a good groundwork of variegated Japanese Maize.

Fuchsias.—A bed of these may well be tried, especially where variety is preferred. It is useless to turn them out into poor dry soil, and they will well repay for any extra trouble taken with them. Plenty of leaf soil and decayed manure ought to be mixed freely with the surface soil, a mulching being given subsequently. Any of the freer-growing varieties that succeed in pots may be planted out well clear of each other, and Lobelias, Musk, Mignonette, or any other trailing plants intermingled among them.

Iresines.—In common with Coleuses and Alternantheras these must not be put out too hurriedly. I. Herbsti is the freest grower, and as this can be pegged down and trained at will it is most suitable for forming a broad band round variegated Zonal Pelargoniums in mixture with blue Violas or otherwise. I. Lindenii is of stiffer habit, and frequently fails on cold heavy ground. This is also suitable for edgings, and is effective in mixture with Gazania splendens.

Marguerites and Petunias.—One of the oldest arrangements in which the former has figured consists of a mixture of Marguerites and Petunias; the latter were the most freely used and formed a showy groundwork; they are still among the best for hot positions and poor soils. Marguerites may also be effectively dotted among Verbenas, seedling or otherwise, and a few plants ought to be introduced into large mixed beds and borders. The white flowering Marguerites are the most commonly used, but the yellow Comte de Chambord and Etoile d'Or are even more attractive.

Various.—If a flat even mass of colour is needed the Zonal Pelargoniums should be planted in a sloping direction, this rendering pegging down a comparatively easy matter, and the larger the plants the better for the purpose. Verbenas require a rather rich soil and plenty of moisture when growing, and if clean young but not wiry plants are put out they will soon cover the ground. Cutting-raised plants are suitable for the centres of small beds and for edging when one colour is needed, while the seedlings do well in a large bed. A bed of mixed Lantanas is rather uncommon and very attractive, and a large bed may quickly be filled with single Dahlias pegged down. Seedling Petunias and Tropæolums will thrive and flower freely on a hot bank, but Violas require plenty of moisture and rich soil. Dahlias will grow almost anywhere, though they pay for good treatment. Stocks, Asters, Zinnias, and Pentstemons ought to be planted in rather rich soil, but Marigolds are not so particular in that respect.

PLANT HOUSES.

Camellias.—Plants for early flowering have completed their growth; it will therefore be necessary to maintain the air about them drier, in order to prevent their starting again. Shade the plants only from bright sunshine. Every ray of light possible must be admitted to them to ripen and harden the wood thoroughly. This is essential if the flower buds are to be retained. Be careful not to allow the plants to suffer from an insufficient supply of moisture at their roots. After the flower buds have formed, and are swelling freely, the syringe may be used twice daily, and the plants supplied occasionally with weak stimulants.

Azaleas.—Plants that flower in early autumn must now be removed to cool airy quarters, or they may come forward too rapidly or burst again into growth. Shade them only from bright sunshine, but admit as much light as possible to harden and ripen the wood. After they have been properly hardened and their flower buds are swelling freely, the plants may be placed outside with safety. Arrange them so that their pots will not be fully exposed to the sun, or the fine hair-like roots will be certain to suffer. If the pots can be plunged in ashes or

any similar material all the better. Assist the plants that flowered late to make their growth by maintaining a warm moist atmosphere. Watch for thrips, especially on plants which have completed their growth. If it appear wash the plants thoroughly with a solution of tobacco water in which has been dissolved 1 oz. of softsoap to each four gallons, and a piece of common washing soda about the size of a Cob Nut.

Ericas.—Plants which it is necessary to retard for late flowering may be placed outside, where they can be protected from bright sunshine. It is desirable to place over them old lights to throw off heavy rains. Be careful not to allow the plants to become dry at the roots. Shade those lightly that are making growth during the hottest part of the day, but admit air abundantly. Keep the base upon which they stand moist by syringing amongst the pots frequently. Pinch shoots that are taking the lead of others, or draw them towards the rim of the pots so as to give the weaker a chance of gaining strength.

Epacris.—The early plants will now be growing freely, and shade should only be applied during bright sunshine. These plants often fail to flower satisfactorily through their growths being drawn up weakly by overshadowing. The frames in which they are grown should be freely ventilated during the day, and a little air may be left on all night. The plants may be syringed once or twice daily according to the weather. They must be watered liberally yet judiciously. Later plants now commencing free growth may be repotted if they need more root room. Good peat and sand should form the compost. Do not disturb the roots further than the removal of the old drainage, and press the soil firmly between the pot and the old ball. They should afterwards be watered with great care, and the frame closed early in the afternoon, syringing the plants at the same time until they are growing and rooting freely in the new soil.

Softwooded Heaths.—All that are to flower next autumn and winter should be in their flowering pots, or be placed in them without delay. Young plants that are potted now should be returned to frames for a time until the weather is settled, when they may be stood outside on beds of ashes. If the pots of the outer rows are plunged the others will shade each other sufficiently to be safe from injury by the sun striking direct upon the pots. Young and old plants, if they have been hardened by abundance of air, will be better outside than in frames. Give each plant plenty of room, so that it has abundance of light and air.

Greenhouse Rhododendrons.—These frequently fail to flower profusely through overshadowing; they practically need no shade. From the time that the new shoots appear until they have lengthened out and developed their foliage light shade from the burning rays of the sun is an advantage; but from the time the foliage and wood become a little firm shading should be gradually discontinued and the plants fully exposed to the sun. The wood must be thoroughly hard and ripe, then flowers are certain. The syringe should be used freely during growth as well as afterwards, and abundance of water given to the roots. The use of the syringe need only be discontinued for a week or two after they have finished their growth, the same as advised for Camellias.

Lapagerias.—Plants that are growing under the roof of a structure on the south side must be densely shaded until they have completed their growth. They cannot endure strong sun in their present stage. The syringe should be used freely, and abundance of water applied to the roots. If they are confined in narrow borders weak liquid manure may be given occasionally.

THE BEE-KEEPER.

SEASONABLE NOTES.

THE past week has been unfavourable for honey production, having been on the whole dull and sunless, and with the wind in the N.E. the whole of the time a low temperature has prevailed. On two or three occasions a thermometer placed on a stand 4 feet from the ground registered within 4° of freezing point, whilst in more exposed places white frosts occurred. Fortunately these were not severe enough to damage the forward crops, though farther northward much damage was done to early Potatoes. Rain has not fallen in sufficient quantity to be of much benefit to the growing crops, the rainfall for the present month being only three-quarters of an inch.

Bees have been confined to their hives, and strong colonies that were supered a few weeks ago and were being rapidly filled with honey from the many fruit tree blossoms during the hot weather experienced a fortnight ago are now fast disappearing, owing to the daily requirements of the extra strong colonies on which they were placed. The consumption of stores at this season is very great. The majority of stocks, however, stored a surplus from the early flowers, and are now in a position to withstand a spell of dull weather.

Breeding is going on apace. Tens of thousands of bees are hatching out daily, and will be ready to take a share of the work, and store a surplus when the honey flow comes.

Swarms that have come off during the past fortnight, and were

placed in empty hives, or on frames of comb foundation, should be fed with half a pint of thin syrup each evening. It will then be taken down before morning, and will not attract robber bees, which are ever on the alert (more especially during a spell of dull, sunless weather), to gain an entrance to other hives, and help themselves to the contents. For this reason honey should not be exposed, and in feeding with thin syrup care must be taken not to spill it. Swarms that were placed in frame hives, and supplied with a frame or two of sealed stores, should have a few of the cells uncapped two or three times a week to encourage the bees to continue breeding. This will enable them to start in supers directly a change comes in the weather.

Swarms that were placed in straw skeps should not be left to take their chance, as I fear they often are, bee-keepers too frequently not giving a second thought as to the requirements of a strong swarm of bees. Fortunately Nature has wisely given them the instinct to provide themselves with natural stores before leaving their parent hive, which they do by filling their honey sacs. They are thus enabled to commence wax production and comb-building at once, and should the weather be fine and warm the latter operation goes on apace; but should a spell of dull, cold weather set in, what is the result? Comb-building will be at a standstill, and unless assistance is given them the bees will soon decrease, and what would otherwise have been a profitable stock will degenerate into a weak colony, which by the time they have increased in sufficient numbers to fill the hive, the honey flow will be over, and they will barely obtain sufficient stores to tide them over the winter. Compare this with the bee-keeper who studies his bees and their requirements, and feed them as above, they will then be soon ready for supering, or in whatever form it is intended to obtain a surplus from them.

Straw skeps should be swarmed artificially when the bees are seen to be bagging out at the entrance of the hive. There is much to recommend this system over natural swarming. One of the chief advantages is that there is no danger of losing swarms, and all the bees are kept fully employed, as during unsettled weather they will often cluster round the outside of the hive for days and even weeks together. Work is at a standstill, and will continue so until they swarm naturally, or the bee-keeper comes to their assistance and swarms them artificially.

There are several stocks of which I know that have been bagging out in this manner for the past ten days. To show the advantage to be derived from this operation, I may mention the fact that on the 25th ult. I took an artificial swarm from a straw skep, placing them at once on frames of fully drawn-out combs; they settled to work with a will, that on examination of the stock to-day (the 28th ult.) I found four frames full of eggs. This will eventually make a strong stock for the honey flow from the white Clover. Had they been left in the straw skep nothing would have been done.

The operation is carried out on similar lines to that of driving bees in the autumn, but is done in much less time. If there is a large cluster of bees hanging from the floor board, they need not be driven into the old stock, but allowed to remain. A puff or two of smoke may be given at the entrance to the hive, then lift it off its stand and place it on an inverted bucket or box, with the mouth of the skep upwards; then place an empty skep on the top, bring the two edges together, and secure them with a pin about a foot in length; two others will be required, but their ends should be turned about an inch at right angles. Lift the front of the top skep, place one of the above on each side so as to hold the top skep to the bottom one; a slight tapping of the bottom hive will soon start the bees to run up into the empty skep.

A sharp look out must be kept for the queen as she runs up with her attendants, as it will be useless taking the bees without the queen. When sufficient bees have been drummed up the old stock may be returned to its original position, and if an empty skep has been placed on the stand during the driving operation it will be found to contain many bees. These with those hanging from the floor-board may be added to the swarm, which should be at once placed on the stand where they are intended to remain, these with attention will make good stocks for the honey flow.

Supering straw skeps may be done by placing a crate of sections on them, or the old-fashioned bell-glass. The latter is still much favoured by cottagers, and when well filled has a nice appearance, and is often interesting to others on account of the easy manner in which the bees may be observed, comb-building and storing honey. The great objection to the latter, however, is the mess that is caused from leaking combs directly they are broken into, and being unsaleable except for a limited quantity.

Sections are to be preferred, and some of the best I have ever seen were obtained from a straw skep. All that is necessary is to have a box to hold the crate of sections, which should be placed on the top of the skep; then cut a hole in the centre to correspond

with that in the top of the skep, and pack the box underneath to make it stand level. Into this box place a crate of sections, and cover the whole up warm with several thicknesses of old carpet, sacking, or similar material; and the colony if strong in bees and the weather favourable will at once commence to store a surplus, which when well sealed over will be in saleable form. An old stock that swarmed last year will be suitable for this purpose, as it will be headed by a young queen. An early swarm of this year is also excellent for supering purposes.—AN ENGLISH BEE-KEEPER.



* * All correspondence relating to editorial matters should be directed to "THE EDITOR." Letters addressed personally to Dr. Hogg or members of the staff often remain unopened unavoidably. We request that no one will write privately to any of our correspondents, as doing so subjects them to unjustifiable trouble and expense, and departmental writers are not expected to answer any letters they may receive on Gardening and Bee subjects, through the post.

Correspondents should not mix up on the same sheet questions relating to Gardening and those on Bee subjects, and should never send more than two or three questions at once. All articles intended for insertion should be written on one side of the paper only. We cannot, as a rule, reply to questions through the post, and we do not undertake to return rejected communications.

Streptocarpus (*T. Arnall*).—We think the flowers, upwards of 2 inches across, very good indeed, and the colour, white, streaked with purple, effective. A plant containing twenty-five such flowers open at once must be highly pleasing, and a good example of successful cultivation.

Black Stripe in Tomatoes (*W. L. H.*).—We have published a good deal on this affection, and shall soon publish a little more. The true black stripe fungus is not likely to pass from plant to plant, except by soil or root agency; still, as your plants may be affected by another fungus as well, dress them with an anti-blight powder, such as "Fostite." Heavy applications of lime to the soil are said to be the best known preventives of the black stripe fungus (*Fusarium*), but when its mycelium enters the roots and takes possession of the stems the plants are beyond cure.

Ivies for Pot Culture (*F. J. B.*).—The small-leaved varieties, both green and variegated, are usually grown in pots for placing in vases. The plants can be trained to any form required by securing the growths to wire trellises. All the varieties are suitable for the purpose. You do not state the number required, and you may safely leave the selection to a vendor. Plants can be had in different sizes established in pots, but for obvious reasons the larger they are the higher is the price. They grow well in four parts of turfy loam, one each of leaf soil and decayed manure, with a little crushed lime rubbish and bruised charcoal for insuring porosity. The pots may be plunged in ashes in the open ground, and the growth of the plants will be governed by the attention they receive in watering and cleanliness.

Calceolarias Failing (*Novice*).—There has been a difference in some points in culture or of surroundings that influence the growth of these plants. They may have received a check in winter, or the atmosphere has been too dry for them. Similar failures frequently occur when the plants have been too root-bound in small pots before being shifted into larger, and especially when the soil in the small pots has been too dry at the time of repotting. In such cases the root action is never so vigorous as it should be, and though it may be sufficient to support the plants till flowers commence expanding, the strain on their resources then becomes too great, and collapse ensues. The failure is more certain if the soil is too light and sandy in character. With an abundance of roots actively working in sound fertile soil, and the plants kept scrupulously free from insects, Calceolarias remain in beauty for a considerable time, and then ripen good crops of seed, a much more exhausting process than flowering.

Tree Carnations (*Idem*).—These Carnations do not damp off and the leaves become brown before the plants attain any size if properly managed. Stout healthy cuttings are essential to begin with, and these root in sandy soil in a close case or frame, or under bell-glasses, but the moment they are rooted, and fresh leaves show signs of growth, they must have full exposure, and all the light and air possible for insuring sturdy growth. It is well to root them in separate 2-inch pots, as then they can be transferred to larger without breaking the roots, shifting them when roots are seen through the drainage, and using turfy loam

with a sixth part of decayed manure and a little bruised charcoal, potting firmly. A cold frame is suitable for them at this season, with the sash drawn off day and night in fine weather when the plants are in free growth. They are often drawn and spoiled in greenhouses during the summer, and damp off if kept too close when young. Light greenhouses are suitable for them in the winter.

Menyanthes trifoliata (*Gardener*).—The above is the name of your plant, popularly known as the Buck Bean or Bean Trefoil, described in Hogg's "Vegetable Kingdom" as one of the most lovely of our native plants. It grows in marshy places, and is very plentiful in Britain, producing an abundance of its white bearded rose coloured blossoms in May and June. The whole plant is intensely bitter and somewhat nauseous, and its bitter properties depend on a principle called menyanthin, which has a pure bitter taste, is soluble in alcohol and water, but not in pure ether, and is chemically neuter. Besides its bitter properties, which are equal to those of Gentian, it possesses also cathartic properties, and in large doses acts as an emetic. It is a cheap and very valuable medicine, and ought to be more generally used. In a scarcity of Hops this plant is used in the north of Europe to give a bitter to the beer, 2 ozs. supplying the place of 1 lb. of Hops. Some people smoke the leaves. *Villarsia* (*Limnanthemum*) *nymphæoides*, also a native of this country, has the same properties.

Vagaries in Laburnums (*A. S. M. C.*).—We have seen several trees similar to yours, though they are not common in gardens. It is known as *Cytisus Adami*, and is a graft hybrid between *C. Laburnum* and *C. purpureus*, obtained by Mr. Jean Louis Adam in 1825 in establishing the purple species on the common Laburnum. In this process it is supposed that a cell of the one species became divided and united to a cell of the other, and the result has been a plant producing not only flowers of each species separately, but others partaking of the characters of both. There are other instances in the vegetable kingdom in which a similar union of cells is believed to have taken place, but *Cytisus Adami* is the best known and best established. It is remarkable that grafting or budding with one variety will occasionally, as the tree grows, produce three or four forms differing in colour and the character of the leaves and racemes. We have not only seen purple and yellow flowers on the same tree but about half and half in the same raceme. There is no accounting for the vagaries of Laburnums when grafting has been resorted to.

Mildew on Strawberries (*Worried*).—This usually results from a dry and cold state of the atmosphere, which is not favourable to free growth. The best remedy is to syringe the plants well, but not so forcibly as to damage the foliage and fruit, in the morning and early afternoon up to the latter changing colour for ripening, when the syringing must, of course, be discontinued. In bad cases flowers of sulphur should be dusted well on the under side of the leaves and the fruit infested, indeed the whole plant, and after remaining forty-eight hours it may be washed off by syringing, the fruit being thoroughly cleansed before ripening. It is, perhaps, better to use the following application—viz., boil 1 lb. of flowers of sulphur and 1 lb. of quicklime in 2½ quarts of water in an earthen pot for ten minutes, constantly stirring all the time of boiling; allow to settle, and pour off the clear liquid for use, placing it in bottles. Syringe the plants with a dilution of the above preparation at the rate of a quarter of a pint to 3 gallons of water. It is equally efficacious against all white mildews caused by oïdium, the parasites being external and easily eradicated without injury to the subject attacked if applied in time.

Mushrooms Withering (*Perplexed*).—When a number of very small Mushrooms spring up round the larger and shrivel after the best are pulled it is in consequence mainly of the nutriment having been diverted and appropriated by the larger specimens. You may regard it if you like as an example of the principle embodied in the famous dream of old of the "fat eating up the lean kine," or, as otherwise expressed in the Darwinian law of the "survival of the fittest." But when small pea-like Mushrooms appear in quantity they shrivel, whether the large ones are cut or not, also if there are no large ones. This is the result of inherent weakness, caused by the extreme sub-division of the force of the spawn, instead of its concentration on fewer points. The withering is more common at this period of the year than earlier, and a multitude of small Mushrooms indicates poverty of material in the manure or soil, and also sometimes occurs when the spawn is made to "run" near the surface more than it ought by some error in covering the beds. If you think the shrivelling of the small is caused by the pulling of the large, why not try cutting them instead? Many gardeners cut the crops and twist out the stems a day or two afterwards, but the most successful growers of Mushrooms for market do not do so for two or three good reasons mentioned in the work to which you refer.

Names of Plants.—We only undertake to name species of plants, not varieties that have originated from seeds and termed florists' flowers. Flowering specimens are necessary of flowering plants, and Fern fronds should bear spores. Specimens should arrive in a fresh state in firm boxes. Slightly damp moss, soft green grass, or leaves form the best packing, dry wool the worst. Not more than six specimens can be named at once, and the numbers should be visible without untying the ligatures, it being often difficult to separate them when the paper is damp. (*J. S. N.*)—It is *Scilla campanulata* or *hispanica*, introduced from Spain in 1683. (*J. F. D.*)—1, *Pyrus Sorbus*; 2, *Cratægus tanacetifolia*; 3, *Lonicera fragrantissima*; 4, *Prunus padus* (Bird Cherry); 5, *Ajuga alpina*; 6, *Veronica chamædrya*. (*M. P.*)—*Salisburia adiantifolia*.

COVENT GARDEN MARKET.—JUNE 3RD.

BUSINESS much improved, with prices firmer. A few outdoor Strawberries from Southampton are now arriving.

FRUIT.

	s. d.	s. d.		s. d.	s. d.
Apples, per bushel	2	0 to 4	6	Lemons, case	11 0 to 14 0
" Tasmanians, per	10	0	12 0	Peaches	6 0 15 0
Grapes, per lb.	1	0	3 0	St. Michael Pines, each ..	2 0 5 0
				Strawberries, per lb. ..	1 0 5 0

VEGETABLES.

	s. d.	s. d.		s. d.	s. d.
Asparagus, per 100	2	0 to 3	6	Mustard and Cress, punnet	0 2 to 0 0
Beans, per lb.	0	9	1 2	Onions, bushel	3 6 4 0
Bect, Red, dozen	1	0	0 0	Parsley, dozen bunches ..	2 0 3 0
Carrots, bunch	0	3	0 4	Parsnips, dozen	1 0 0 0
Cauliflowers, dozen	2	0	3 0	Potatoes, per cwt.	2 0 4 0
Celery, bundle	1	0	0 0	Salsafy, bundle	1 0 1 6
Coleworts, dozen bunches ..	2	0	4 0	Seakale, per basket	0 0 0 0
Cucumbers, dozen	1	6	3 0	Scorzonera, bundle	1 6 0 0
Endive, dozen	1	3	1 6	Shallots, per lb.	0 3 0 0
Herbs, bunch	0	3	0 0	Spinach, pad	0 0 4 6
Leeks, bunch	0	2	0 0	Sprouts, half siv.	0 0 0 0
Lettuce, dozen	1	3	0 0	Tomatoes, per lb.	0 6 0 9
Mushrooms, per lb.	0	6	0 8	Turnips, bunch	0 3 0 0

PLANTS IN POTS.

Arbor Vitæ (various) doz.	6	0 to 36	0	Hydrangea, various, doz. ..	9	0 to 24	0
Arum Lilies, per dozen ..	6	0	9 0	Ivy Geranium, per dozen ..	3	0	7 0
Aspidistra, dozen	18	0	36 0	Lilium Harrissi, per dozen	15	0	24 0
Aspidistra, specimen plant	5	0	10 6	Lobelia, per dozen	4	0	6 0
Calceolarias, per dozen ..	6	0	9 0	Lycopodiums, dozen	3	0	4 0
Cineraria, dozen pots ..	4	0	6 0	Marguerite Daisy, dozen ..	6	0	9 0
Dracæna, various, dozen ..	12	0	30 0	Mignonette, dozen pots ..	4	0	6 0
Dracæna viridis, dozen ..	9	0	18 0	Myrtles, dozen	6	0	9 0
Ericas, various, per dozen ..	9	0	24 0	Nasturtium, per dozen ..	3	0	6 0
Euonymus, var., dozen ..	6	0	18 0	Palms, in var., each	1	0	15 0
Evergreens, in var., dozen	6	0	24 0	" (specimens)	21	0	33 0
Ferns in variety, dozen ..	4	0	18 0	Pelargoniums, per dozen ..	8	0	12 0
Ferns (small) per hundred	4	0	6 0	" scarlets, per dozen ..	3	0	9 0
Ficus elastica, each	1	0	7 0	Spiræas, doz.	6	0	9 0
Foliage plants, var. each	1	0	5 0				

AVERAGE WHOLESALE PRICES.—OUT FLOWERS.—Orchid Blooms in variety.

Anemone (French), dozen bunches	2	0 to 4	0	Orchids, various, per dozen blooms	1	6 to 12	0
Arum Lilies, 12 blooms ..	2	0	4 0	Pæonies, various, per dozen blooms	0	6	1 6
Asparagus Fern, per bunch	2	0	4 0	Pelargoniums, 12 bunches	4	0	8 0
Azalea, dozen sprays	0	4	0 6	Polyanthus, dozen bunches	1	6	2 6
Bouvardias, bunch	0	6	1 0	Poppies, various, per dozen blooms	0	2	0 6
Carnations, 12 blooms ..	1	0	3 0	Primula (double), dozen sprays	0	6	1 0
Cornflower, dozen bunches	2	0	3 0	Pyrethrum, dozen bunches	1	6	3 0
Eucharis, dozen	2	0	4 0	Roses (indoor), dozen ..	0	6	1 6
Gardenias, dozen	2	0	3 0	" Tea, white, dozen ..	1	0	2 0
Geranium, scarlet, doz. bunches	4	0	6 0	" Yellow, dozen (Niels)	2	0	4 0
Iris (English) doz. bunches	4	0	6 0	" Red, dozen blooms ..	2	0	4 0
Lilac (French) per bunch	3	0	4 0	" Safrano (English), dozen	1	0	2 0
Lilium longiflorum, twelve blooms	3	0	5 0	" Pink, per dozen ..	3	0	5 0
Lily of the Valley, 12 sprays	0	6	1 0	Smilax, per bunch	3	0	5 0
Maidenhair Fern, doz. behs.	4	0	8 0	Spiræa, dozen bunches ..	3	0	5 0
Marguerites, 12 bunches ..	2	0	3 0	Stephanotis, dozen sprays	2	0	3 0
Mignouette, per dozen bunches	3	0	4 0	Tuberose, 12 blooms ..	0	6	1 0
Myosotis or Forget-me-not, dozen bunches	1	6	2 6	Wallflowers, per dozen bunches	2	0	3 0
Narcissi, var., doz. bunches	0	9	2 0				



NOTES ON DAIRY WORK.

In fitting up a dairy, "the best of everything" will be found cheapest in the long run. For instance, all tin ware, such as milk pails, skimmers, and pans, should be of good material and well made, with as few seams as possible. Cheap, badly made tins soon work loose at the joints and show pin pricks, where drops of milk can lodge and turn sour, thus rendering perfect cleanliness a difficult matter. For the same reason earthenware vessels used in the dairy should be thoroughly glazed.

Where six or more cows are kept a mechanical separator will be found the best means of obtaining the cream. By its use more butter is obtained than by any other system, and it is claimed that half a gallon less milk is required to make 1 lb. butter. The initial cost of these machines being as yet rather high, they are chiefly to be recommended for a large dairy.

The simplest, and perhaps best, way of cream raising for a small dairy is by means of "coolers." These are oblong tins some 5 or 6 inches deep, into which the milk is strained directly

after milking—a desideratum in all setting—and skimmed twice, at intervals of twelve hours. Shallow earthenware pans are often used in place of the tins, but on account of frequent breakages come a little more expensive.

In the West of England most of the cream is raised by 'scalding,' a method so simple and productive of the well known delicious "clotted cream," that one wonders it is not more largely practised in other parts of the country.

For the benefit of the uninitiated we will briefly describe the process. The milk on being brought in is strained into round tins about 8 inches deep, and 16 across. These are allowed to stand twelve hours, after which they are gently carried to a stove or "scalding"—an apparatus for heating water, the cover of which is made with round openings, into which a pan of milk fits. The milk is heated from twenty to thirty minutes, by which time, if the water were nearly boiling (200° F.), the cream becomes thick and blistered-looking, and a ring corresponding to the bottom of the pan may be seen. It is then taken back to the dairy, skimmed after an interval of twelve to twenty-four hours, according to the time of year.

Where a proper "scalding" is not available the milk may be scalded on an ordinary kitchen stove by placing the pan of milk in a vessel of water on the top of the stove. On no account must the milk be allowed to boil, and, on the other hand, there must be sufficient heat to raise it to 180° F., a temperature insuring the blistered appearance within half an hour.

Having obtained our cream, the next thing is the selection of a churn. We may remark *en passant*, that good butter can be and is made by all and every sort of churn provided it is used with skill and cleanliness.

Our improved modern churns, however, are easier to turn, more convenient in use, and easier to wash, but cannot claim to produce a better article than one that has been in use half a century in some old fashioned farmhouse. Where a churn has to be purchased, it should be chosen with a large mouth, so that both arms can go in for the removal of butter and for washing out. The lid ought to be fitted with a round piece of glass, by which one can note the stage of churning arrived at. If there are beaters they should be moveable, not fixed. As a churn must not be more than half filled, it should be bought large enough in the first instance.

In churning, much depends on the temperature of the cream. Therefore a dairy thermometer is indispensable. This should be from 54° to 58° F. in the summer, and 58° to 63° F. in the winter; the cooler the day the warmer the cream, and *vice versa*. Cream from different cows, and produced on different land, will require varying temperatures. Having our limitations—54° to 63°—we soon find what is best suited to our own particular cream.

If the butter comes in less than half an hour, and is soft, and the butter-milk appears rich, we may conclude the temperature was too high, or if churning takes much over an hour, a degree higher temperature may be tried with advantage. When the butter is the size of grains of Wheat, churning must be stopped and the butter-milk let out. The butter is washed best and easiest in the churn, and this is done by pouring in, say a pailful of water at a time, and churning rapidly some dozen times each way. This should be repeated until water comes away clear, showing no butter-milk remains. Butter churned into big lumps can never be perfectly freed from butter-milk, hence does not keep so well. If fresh, slightly salted butter is required, it will be sufficient to soak it in brine (2 lbs. of salt to 1 gallon of water) for ten minutes. This improves the colour and helps to harden it. If more salt is preferred, half an ounce of fine dry salt may be sifted on to every pound of butter or quart of cream.

Though a cumbersome old-fashioned churn may serve its purpose, a modern appliance is very desirable for working the butter. These butter-workers, as they are called, can be bought

from 12s 6d. upwards, and will be found most valuable additions to all dairies. They consist of an oblong wooden table with a ledge all round, a ridged wooden roller (pushed by hand), which runs up and down the table, over the butter, and so presses out the moisture, which drains away through a small outlet. This table slopes to one end, but for the purpose of "making up" can be made level.

The making up of the butter should be done with "Scotch hands," small boards made for the purpose. A brick shape is best for packing, and easiest made; next comes a plain roll. Whatever the style adopted, it should be as neatly turned out and as uniform as possible. In this, as in preparation of all other food, appearance goes a long way. When made, it should be placed in a draught, protected from dust (by a piece of dry muslin) in order to "set" as rapidly as possible.

WORK ON THE HOME FARM.

Swedes having been sown, and the land all but ready for drilling with common Turnips, we may walk round and take stock of work done and probable results. If the walk be a long one, as in our own case, a pleasant rest may be taken on the top bar of a gate (if the said bar be fairly wide one), and with the broad fields in full view our plans laid for the future.

We have often wondered whether the aged man described by Mr. Lewis Carroll as sitting on a gate was an up-to-date agriculturist; at any rate, his skill at standing on his head would have been exceedingly useful at the present time if he were, for the evolutions of the acrobat are as nothing to what the farmer has to master in these ultra modern days.

The rain has been sufficient for the Wheats, which look well; but the same cannot be said for Barley and Oats, which, looking well where sown early on good land, are still crying out for rain where there is poverty either of soil or management. We see and hear of fields which have only partly germinated the seed put in them. It is a trying time with the young Clovers and grass seeds, and we find the tiny plants not so numerous as they were when first up, which clearly shows that the drought has killed many of them. Some people would re-sow, but the same thing might occur again, and if there be half a plant visible a bird in the hand is worth two in the bush, and half a loaf is better than no bread.

Potatoes are looking very promising, though the heavier soils have been a little rough, and the "iron age" horse hoe has been used with excellent effect.

Mangolds are coming up very thinly, and there is nothing like a full plant yet. Early Turnips have come well, with sufficient moisture there should be good crops of Swedes. The land is well cleaned and in fine condition.

Pastures are, alas! anything but good; seeds are very bare, and the outlook for hay and Clover anything but promising; in fact, hay cannot be an average crop, and many fields of Red Clover are too thin of plant ever to make a good crop.

This has been quite a typical May month, fine on the whole, with slight frosts and generally cold N.E. winds. Had there been more rain in April all would have been well, for May should be dry to benefit the farmer. Upon time much depends. "A dripping June puts all in tune" is an old saying and a true one, let us hope that it may be fulfilled this year of grace 1896.

METEOROLOGICAL OBSERVATIONS.

OAMDEN SQUARE, LONDON.

Lat. 51° 32' 40" N.; Long. 0° 8' 0" W.; Altitude 111 feet.

DATE.	9 A.M.					IN THE DAY.				Rain.
1896. May.	Barometer at 32° and Sea Level.	Hygrometer.		Direc- tion of Wind.	Temp. of soil at 1 foot.	Shade Tem- perature.		Radiation Temperature		
		Dry.	Wet.			Max.	Min.	In Sun.	On Grass.	
Inchs.	deg.	deg.		deg.	deg.	deg.	deg.	deg.	Inchs.	
Sunday .. 24	30.336	55.7	48.6	N.E.	56.2	66.2	47.3	113.9	41.3	—
Monday .. 25	30.484	56.4	48.3	N.E.	56.9	63.4	44.0	105.1	40.6	—
Tuesday .. 26	30.389	54.8	49.1	N.E.	56.8	67.9	44.8	118.6	36.9	—
Wednesday 27	30.253	59.8	52.4	N.	57.0	71.1	44.1	122.9	37.1	—
Thursday .. 28	30.298	57.2	51.0	N.E.	57.9	68.4	48.1	118.4	43.1	—
Friday .. 29	30.196	57.7	53.1	N.	58.9	78.9	46.9	122.9	44.3	—
Saturday .. 30	30.163	59.3	52.8	N.	60.1	61.8	52.9	86.8	44.3	—
	30.303	57.3	50.8		57.7	68.2	43.9	112.7	41.1	—

REMARKS.

24th.—Bright sunny morning; cloudy in late afternoon and evening.

25th.—Generally overcast throughout, but intervals of sunshine.

26th.—Alternate cloud and sunshine all day.

27th.—Bright sun all morning; cloudy at times in afternoon.

28th.—Bright and fresh.

29th.—Bright sunshine almost throughout.

30th.—Overcast day, with occasional gleams of sun; fine evening.

A rainless week, closing a month with less than one-tenth of the average fall, and with the least rain in any May for thirty-eight years. Since April 16th less than a quarter of an inch of rain has fallen. Temperature of the week very near the average.
—G. J. SYMONS.

Carmine Pillar & Single Roses

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The "Old" Nurseries, CHESHUNT

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OINERARIAS, same price; also PRIMULA OBOCONICA, 2/6
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12 Older CAOTUS, 4s. 6d.; six, 2s. 3d.
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50 lb. Bags, 10s.; and 1 cwt. Bags, 15s., Carriage Paid.

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Growers. It thoroughly cleanses without the slightest injury
to foliage or young fruit.

In stone bottles (the original size), 1s., 2s. 6d., 5s.
In drums, 12 lb., 13s. 6d.; 28 lb., 25s.; 56 lb., 50s.

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DESCRIPTIVE PRICED CATALOGUE FOR 1891, 146 Pages
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Mrs. Gladstone, Mrs. Langtry, Mont Blanc, Peacock, John Bennett
Duke of Edinburgh, for P.O. 2s.; 12 var., 3s. 6d.; or six splendid
named show Cactus, 1s. 9d.; six choice named Pompones, 1s. 9d.;
six choice named singles, 1s. 9d., all post free; or two dozen
splendid, my selection of all the best sorts named, 7s., car. pa'd.
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horticultural purposes. In boxes 1s. and 2s. 6d.; bags, 50 lbs., 8s.;
1 cwt., 15s. May be obtained through any Seedsmen, or direct
(bags only), carriage paid, and liberal discount for cash with trial
order, from **W. H. BEESON, Sheffield.** Pure Crushed Bones, all
sizes, and other Fertilisers at market prices.



Journal of Horticulture.

THURSDAY, JUNE 11, 1896.

THE DROUGHT AND ITS LESSONS.

OUR correspondent, "W. R. Raillem,"
writes:—

"A dripping June brings all things in tune."

"At this time of year we may often see this
adage quoted, and generally with favour; but,
personally, I find it most untrue. As an agri-
culturist, rosarian, and sportsman a dripping
June ruins the whole year for me. Hay is my
field crop, my soil being light and early, my
grasses are in flower, and fit to cut in the second
week in June. Whether May has been wet or
dry, rain in June is bound to do my hay more
harm than good.

"Tea Roses are my garden crop. By the
middle of June these are sufficiently forward to
be spoiled by continuous 'dripping' weather.
The same may be said of the partridge crop, on
which the East Anglian sportsman so much
depends. No; May is the month when we want
rain, and very seldom get enough of it. We
have had now three May droughts in four
successive years; and, to the best of my recol-
lection, we have only had sufficient rain in May
three times in the last ten years.

"The above quoted adage may perhaps
be true for the northern parts of England,
but I cannot see that it is (especially for
'all things') in the midland and metropolitan
latitudes."

There is another old adage to the effect that
a showery May brings plenty of corn and hay.
We forget the exact terms, but we suspect that
in the South of England at any rate our corre-
spondent is not far wrong in his surmise that no
amount of rain in June can compensate for a
striking deficiency in the month preceding in its
effect on crops of various kinds. Not in May
only was the drought unusually exhausting this
year, but its effect was intensified by the
marked absence of rain in the month preceding
—April.

Mr. J. G. Symons has favoured us with the

following comparative returns of rainfall during the first five months of the years undernoted :—

RAINFALL AT CAMDEN SQUARE, LONDON.

	January.	February.	March.	April.	May.
Average ten years, } 1880-89.	1.62	1.88	1.61	1.74	1.90
..
1896.	0.78	0.30	3.20	0.55	0.14

It will be seen that as compared with the ten years' average given that the deficiency of the present season amounts to 3.78 inches. During the first two months named the present year's deficiency amounted to 2.32 inches; then March came to the rescue, and at the end of that month we were only 0.83 behind the decadal average; but then came the time of trial, for only a trifle over half an inch fell in April, and only about a fourth of even that small amount in May; or, in other words, as we stated last week, we have sustained a loss during the two important "growing" months named of nearly 300 tons of rain to each acre of land, and this, no doubt, approximates to the fact over a very large area.

An anxious and a trying time it has, no doubt, been to many amateurs and gardeners, especially where the artificial water supply has been by no means equal to requirements. There is no need to wonder that a considerable amount of fruit has vanished from many trees, but that, though immediately disappointing, might have been advantageous to some of them had the loss not been accompanied in too many instances with a horde of caterpillars and insects of various kinds, either curling up the leaves or converting them into mere skeletons, thus inflicting injury of a permanent kind.

Nor is there any wonder that seeds in gardens and fields innumerable have been unable to germinate, and that large areas of land are bare which under normal conditions would have been covered with verdure; and again, it would have been a matter for surprise rather than the reverse if the Onion and Carrot enemies had not attacked the enfeebled plants that had made a start in the battle of life. It is a fact, however, that in harsh, dry soils and too late sowing that no start has been made by seeds such as those named; also Beet, Turnips, and Parsnips which were placed in the ground a month ago.

It is said that dry seasons come in cycles, and for the past few years the shallow workers of land and late sowers of seeds have been at a disadvantage. Every year when drought prevails it enforces the important lessons of deep and thorough culture, generous land enrichment, and early sowing, also early and deep rather than late and shallow planting of Potatoes. Deep planting can only be carried out in deeply worked land, and where this practice has prevailed the condition of the plants in health and vigour are very apparent, and the crops must be far superior to those from plants that are languishing through restricted root action in a medium altogether too dry to afford them half sufficient means of support.

Useful lessons may often be taught from cultivation on a small scale—say in a field of allotments—if we are not too proud to learn from them. We have lately observed plots of ground that had been trenched early, the soil being broken into small particles throughout, and where the planting and sowing were practically completed before the close of March, that now present a most refreshing and encouraging appearance in the promise of the crops, whereas other plots in ground of the same staple, but which had been roughly turned over late and also sown and planted at and after the middle of April, are almost as bare as when the work was done. Potatoes are just struggling through the surface, and beyond these there is little to see beyond bare soil.

The thorough work and early action, with the free use of the hoe between the rows for arresting evaporation, has been equivalent to 200 tons of rain per acre, and affords eloquent testimony to the power of sound intelligent cultivation in minimising the effects of

the late extraordinary term of dry weather. June may drip as it may, and showers have already been of enormous benefit, but it is impossible it can do anything approaching so much good to the crops of the laggards as to those which were started in good time, and are now being helped on so well. These are being "put in tune," but the others are bound to stand out as violent discords all the season through.

A CHAT ABOUT IRISES.

WRITING in the *Cottage Gardener* in the year 1853, a correspondent says :—"It has often been a matter of surprise to me in visiting gardens in various parts of Great Britain to find this beautiful flower so little grown." Nearly half a century has passed away since these words were penned, and mighty changes have taken place in the world of horticulture; yet these words are applicable for the commencement of an article on Irises even in our own day. To say that this beautiful flower is little "grown" would, of course, be stretching a point, for we find it in almost every old-fashioned garden in the kingdom; but if we substitute the word "cultivated," then the sentence defies criticism.

To dwell for any length on the utility or beauty of the Iris is unnecessary, so well is it known. The explanation of the word is symbolic of its character, taken as it is from "*Iris*—the eye; referring to the variety and beauty of the flowers." The Poor Man's Orchid is another of its appellations, and for it no apology is due to that aristocratic race of plants, for in the standards and falls of the Iris flower are to be found a silkiness of texture and delicacy of colouring equalled only by Orchids of the choicest types. Though possessing this similarity to the latter they have nothing else in common, for the Iris is truly a democratic flower, equally at home in the garden of peasant or peer. A visit to many an old-fashioned cottage garden during the month of May would prove this. The writer is acquainted with many such gardens where the Irises bloom profusely year by year. No one knows who planted them or whence they came; the tenements have changed hands many times, but still they bloom on, oblivious of Time's ravages; grey-haired men remember plucking the flowers in childhood, and that is all they know about them. In another instance the cottage has disappeared, and among a few other tenacious flowers that mark the site is a clump of Irises, which, like the running stream close by, might say—

"Men may come and men may go, but I go on for ever."

Turning to the herbaceous border in more pretentious gardens we find no more familiar occupant than the Iris, and here we see the force of the remark that they are grown but rarely cultivated. Large clumps of the blue Iris *germanica* and a few others are evidence of the plant's powers of multiplication, but beyond that little can be said. The chances are that they were planted, nobody knows when, and have never since been removed, or any attempts made to increase the variety. Lending themselves to almost any conditions of soil and position, ornamental whether in flower or otherwise, constant in spite of adverse surroundings, perhaps this plant has been considered too commonplace to receive the attention its merits deserve. Mr. F. W. Burbidge in a recent lecture on Daffodils quoted a wise Greek who said, "Take care of the beautiful, as the good and true will take care of themselves." In the Iris we have something that is truly beautiful, and yet has in a great measure had to take care of itself, as we find the old-fashioned Iris *germanica* was introduced into this country so far back as the year 1573, and even now it is one of the most common and best known.

How rarely one meets with a good representative collection of Irises even in gardens where hardy herbaceous flowers are made a specialty. Why this is needs some explanation, for though there is much in the flowers to admire respectively, yet it is collectively that they more fully appeal to us, as it is under these conditions that an opportunity is given of comparing the different shades and richness of colouring, the contrasts of tints, and variety of habit, that a good collection of Irises present. Such a collection is to be found in the gardens of the Royal Horticultural Society at Chiswick, an inspection of which prompted the idea that led to these notes.

Though the cultivation of Irises has undoubtedly been neglected, yet fortunately some few horticulturists have been sufficiently struck by their unique characteristics as to make them a specialty, and amongst these was the late Mr. Shirley Hibberd, who devoted considerable attention to the family, and succeeded in obtaining many beautiful varieties. At the death of Mr. Hibberd the Royal Horticultural Society came into possession of his collection, which was moved to Chiswick, but unfortunately many of the plants were

numbered, and no corresponding record could be found of their names, the result being that several of the best now in flower at Chiswick are without any authentic names. Though one cannot help regretting the loss of the names of Mr. Hibberd's best varieties, yet there are sufficient at Chiswick without them to make the collection a representative one, the greatest difficulty being that one is apt to get confused in attempting to describe them.

Anyone with a taste for dwarf-growing plants would pay close attention to the forms of *Iris variegata*, which found its way from Hungary to this country in 1597. *I. variegata minor* is a charming flower, with orange yellow falls, and standards veined with violet. *I. variegata Conqueror* has falls of the same colour, but with black velvety edges, making it one of the prettiest of the section. *I. variegata Chenedolla* is very striking, with dwarf, compact habit, and large yellow falls, distinctly marked with dull red lines. The palm of the *variegata* section is here, however, given to *Prince of Orange*. The predominating colour of the flower may be gathered from the name, being of the richest orange yellow, with very distinct markings; the blooms, which are large, and borne on sturdy stems, are very striking. *I. variegata Ganymede* has yellow falls, with standards of the same tint, laced with lines of dark purple. Similar characteristics run through the whole of the variegated section, though each form has some distinct feature of its own.

Turning to the varieties of *I. squalens*, which is of later date, being introduced in 1768, we have *I. squalens The Moor*, a tall-growing purple flower of striking beauty; *I. squalens Exquisite*, a charming flower, with creamy white standards and falls of light purple, and *I. squalens Harrison Weir*, which has large rounded falls of a deep purple, and standards of a dullish yellow. One of the most striking in the *squalens* section is *Bronze Beauty*, a fine flower, the predominating colour of which may be gathered from its name. *I. squalens Van Geerti* has falls of almost slate colour, with standards of orange yellow. Amongst others worthy of mention are *I. squalens Mrs. Shaw*, *latifolia*, *Vincent*, and *mamora*.

One of the most charming of the family is *Iris pallida*, which hails from Turkey, and was introduced in 1596. The flowers are pale blue, though the varieties of *pallida* differ somewhat. *I. pallida Walneri* is a charming flower, tall in habit, and of a most delicate sky blue. *I. pallida Celeste* is similar in character though varying slightly in shade, and *I. pallida Mandralisæ* is a dark blue. The beauty of the flowers in the *Iris neglecta* section makes one wonder why they should be termed neglected, for here we have the most distinctly lined blooms in the family. *I. neglecta Fay Queen* is a beautiful variety of dwarf habit, with flowers of dull white laced with numerous blue stripes. *I. neglecta Nationale* is a taller grower with pretty striped blooms. The flowers of *Kitty Kingsbury* are white with purple markings, and in *Marion* we have a plant of dwarf habit, and flowers closely striped with lines of light blue.

Iris amoena or *delicata* was first grown in England in 1821, and the varieties in this section are very beautiful. Amongst the best are *I. amoena Morpheus*, with numerous blue stripes on a white ground, and *I. amoena reticulata alba*, the main colour of which is white with lines of violet. *I. amoena Juliette* is a distinct variety, inasmuch as instead of being striped the white flowers are washed as it were with violet. *I. amoena Donna Maria* is an almost pure white flower, and *I. amoena Comte de St. Clair* is white, with most elegant violet markings.

Enough has, however, been said to give some idea of the beauty and variety to be found in the *Iris* family, and an illustration of their adaptability for blooming during hot dry weather is given in the collection at Chiswick. A perfect mass of bloom they presented a few days ago, and if the pleasing charms of a collection of *Irises* were more widely known then would the family be more extensively cultivated, at least so thinks—G. H. HOLLINGWORTH.

HARDY RHODODENDRONS.

SINCE the remote date when these showy evergreen shrubs were first employed in the adornment of British gardens they have been steadily increasing in popularity. This is scarcely a matter for surprise seeing how greatly superior in point of attractiveness the numerous hybrids are over the older forms of *R. ponticum*. This species is, however, still valuable for planting in dry positions, and under the shade of trees where the more showy hybrids do not thrive, but it is a decided mistake to plant *R. ponticum* in prominent positions, where, with a little care, up-to-date hybrids may be firmly established. Nearly all the older species and varieties of *Rhododendrons* lacked brightness of colour, but now we have them bearing flowers of delightful pink and rose shades, as well as crimson and brilliant scarlet. Among the new spotted varieties, too,

the markings are yearly becoming more clearly defined, and the grand deep trusses, perfect in shape, seem to leave nothing to be desired in that direction. Until recently a really pure white might be sought for in vain, but in *Hélène Schiffner* we have a gem which should be in every collection.

One regrettable fact in connection with the culture of these "kings among flowering shrubs" is that they will not thrive in soils where lime or chalk is present; to plant in such is a waste of time and money, though of course they may be cajoled into growing satisfactorily in any garden provided the natural soil—where unsuitable—is removed, and a suitable compost substituted. This of course entails much labour, and many owners of extensive gardens never cease to regret that it should be necessary to take so much trouble to accomplish what can be done so easily in gardens they visit, where the natural soil grows *Rhododendrons* to perfection. Nature, however, will have her way in these matters, it is for us to study and apply her laws. I have touched upon these cultural difficulties to show, although the beautiful shrubs under notice may be grown in almost any garden, it is nevertheless necessary to bring knowledge, skill, and energy to bear upon the work, in order to achieve success where failures have previously been recorded.

It is usual to recommend planting to be carried out in autumn or early spring, and there can be no doubt that those seasons are favourable for the work; but I have proved that planting may be done during the summer months with equal certainty of success. To insure this two conditions are necessary—viz., that pot plants are employed, and that watering is carefully attended to for several weeks after planting is done. In places where peat can be easily and cheaply obtained I prefer planting in that alone, but all gardeners are not in a position to obtain this. When such is the case a compost formed of three parts sweet half-decayed leaves, and one of fibrous loam, with a little sharp sand added, is one which may be confidently employed for them. A compost of this nature I find settles considerably, and after several months sometimes leaves a few surface roots around the stem exposed. When this is the case, it is important to mulch with leaf soil, and repeat the operation whenever surface roots are visible.

In preparing beds the soil should be removed to a depth of at least 2 feet, 3 or 4 inches of broken bricks or clinkers being placed in the bottom before the soil is filled in; this of course should be trodden firmly, and the surface, when completed, be left slightly above the surrounding ground line. When *Rhododendrons* once get into a sickly state—which is plainly indicated by pale yellow leaves with browned edges—it is wise to consign them to the rubbish heap and start afresh with vigorous plants, for the labour involved in bringing such to health again is a more expensive proceeding than buying a fresh set of plants.

The early flowering hybrid section does not receive the attention it deserves. True, there is danger of the flowers being injured by spring frosts, but sheltered positions can usually be found for a few beds or clumps, and the flowers are always especially welcome in the early spring months. We have frequently gathered trusses by the end of March. Some of the best among them are *altaclarensæ* (scarlet), *arboreum Wellsianum* (bright scarlet), *Baron Oty* (cream-white, maroon blotch), *Blanche Superbe* (pure white), *Brilliant* (crimson scarlet), *Broughtonianum* (rosy red), *Madame Wagner* (bright pink, white centre), the several varieties of *Nobleanum* (give flowers of rose, scarlet, and light pink shades of colour, they are very dwarf and free blooming), *Russellianum superbum* (deep scarlet). In the *catawbiense* section rose, pink, and delicate lilac shades of colour predominate.

The following is a good general collection for flowering during May and June:—*Alexandre Adie*, deep crimson; *Alexander Daney*, bright rose, lighter centre; *Ascot Brilliant*, deep blood red; *Ayrshire*, purple, rich yellow eye; *Baroness Schröder*, white, finely spotted; *Bryanum*, vivid rose scarlet; *Charles Bagley*, cherry red (grand); *Countess of Wilton*, bright crimson; *Duchess of Connaught*, white, lemon yellow markings; *Edward S. Rand*, bright scarlet; *Frederick Waterer*, bright crimson; *George Paul*, crimson, finely spotted; *giganteum*, bright rosy pink (grand); *James Bateman*, rosy scarlet; *Kate Waterer*, clear rosy crimson, yellow markings; *Lady Grey Egerton*, silvery white, blush tinted; *Manglesi*, pure white, reddish brown spots; *Mrs. Holford*, rich salmon (large truss); *Mrs. J. Kelk*, clear rose; *Mrs. J. Penn*, bright salmon pink; *Princess Christian*, white, reddish spots; *Princess William of Wurtemberg* (the finest spotted variety); *Sir Arthur Guinness*, clear rose; and the *Warrior*. Every variety enumerated in this list is a good showy one. The dark heavy coloured ones I have omitted, as I maintain we must aim at brightness or softness of colouring in *Rhododendrons*. Dull heavy coloured flowers have but little decorative value, for they are neither very attractive when growing in the pleasure grounds, nor suitable when cut for brightening the rooms of the mansion.—H. D.



ROSE SHOW FIXTURES IN 1896.

- June 17th (Wednesday).—York.†
 „ 18th (Thursday).—Colchester and Isle of Wight (Ryde).
 „ 23rd (Tuesday).—Langham Place, London, S.W.†
 „ 24th (Wednesday).—Reading (N.R.S.), Richmond (Surrey).
 „ 25th (Thursday).—Hereford.
 „ 27th (Saturday).—Canterbury, Southsea, and Windsor.
 „ 30th (Tuesday).—Maidstone and Sutton.
 July 1st (Wednesday).—Croydon, Ealing, Farnham, Farningham, and Leatherhead (Brockham Rose Association).
 „ 2nd (Thursday).—Bath, Eltham, and Norwich.
 „ 4th (Saturday).—Crystal Palace (N.R.S.)
 „ 7th (Tuesday).—Harrow, Wolverhampton.†
 „ 8th (Wednesday).—Canterbury (Hospital Fête), Chelmsford, Hitchin, Lee,* Newcastle-on-Tyne,† Redhill (Reigate), and Tunbridge Wells.
 „ 9th (Thursday).—Helensburgh, Woodbridge, and Worksop.
 „ 11th (Saturday).—New Brighton.
 „ 14th (Tuesday).—Westminster (R.H.S.).
 „ 15th (Wednesday).—Ulverston (N.R.S.)
 „ 16th (Thursday).—Halifax.
 „ 21st (Tuesday).—Tibshelf.
 „ 25th (Saturday).—Manchester.
 „ 29th (Wednesday).—Chesterfield.
 „ 30th (Thursday).—Trentham.
 Aug. 5th (Wednesday).—Chester.*
 „ 19th (Wednesday).—Shrewsbury.*

† A show lasting three days. * A show lasting two days.

Any dates not appearing in the present list I shall be glad to publish in the next one.—EDWARD MAWLEY, *Rosebank, Berkhamsted, Herts.*

BROCKHAM ROSE ASSOCIATION.

IN your "Rose Show Fixtures" will you kindly add in brackets after July 1st, Leatherhead (Brockham Rose Association)? as it is in reality the Brockham Rose Association who are holding their Show this year at Downside, Leatherhead.—ALFRED TATE, *Member of the Committee of the B.R.A.*

THE N.R.S. AT READING.

THE visit of the N.R.S. to Reading on June 24th is already exciting considerable interest, and is causing the Society a satisfactory sensation through the influx of new members. The Queen of the West will endeavour to give her welcome visitors a due reception, and it is to be hoped that the weather—and the season so far is early—will allow of this show being at least equal to that of Windsor of last year. Reading cannot vie with the Royal borough in some respects, though it also has had much to do with royalty. It has no existing castle, but it has its Abbey ruins, which for beauty and extent have not many real rivals. In prospect of a large influx of comparative strangers, and with a view to enabling exhibitors, after the show, to see as much of the local lions as possible, it has been thought desirable beforehand to give some slight sketch of the town's principal objects of interest.

The show will be held in the centre of the very chiefest. Perhaps nowhere in England could there be found a more accessible or picturesque spot. The Abbey precincts originally extended over some 25 acres. The Abbey ruins (with its outer court, now called the Forbury) still occupy a very considerable space. There is a great extent of grand old wall, now denuded to its flint core, but still massive and magnificent, extending on all sides. On the walls are placed notices of what were the various localities, particularly the site of the once most magnificent Abbey church. The Forbury used to be the scene of tournaments and court pageants; it is now a beautifully laid-out garden, having in one corner a Hornwork, with a Russian cannon mounted on it, the only relic of the extensive fortifications of Reading during its siege in 1643. But the show place? Well, next to the grand old Consistory, that magnificent hall where so many Parliaments have been held, and where policemen are now drilled; next to this there is a wide space, once the underpart of the dormitories, which the Corporation grants for local shows to the Reading Horticultural Society, and which, on such occasions, is covered over with huge tents. In the vast space underneath grassy banks will be found rising ledge above ledge, affording a very different and far prettier setting for Rose boxes than the ordinary range of rows of not remarkably handsome tables. Beyond this, again, is a beautifully shaded walk, once part of the Abbot's garden, bounded on the south by the united waters of the Holy Brook and Kennet.

It is, indeed, an ideal spot for preliminary arrangements and setting up boxes in the shade; whilst close by is an absolutely limitless supply of that priceless mineral water. Strictest privacy can be secured; there

will be no inroad of pretty stallholders, as at the Crystal Palace, begging for Rose blooms. The Abbey ruins and the Forbury are the property of the Mayor and Corporation, and on occasions of flower shows are not open to any but ticket holders and by payment. The Forbury gardens themselves contain a fair number of Roses, which, perhaps, after such a show will have a chance of being joined by more modern compatriots.

When the setting-up labours are over, and the anxious period of the Judges' inspection has arrived, those turned out of the tents will find solace and a good deal to interest them in the various surroundings. I spoke of the lions of Reading, and we need not go far to find one. There is a very literal and a very grand one, on a pedestal too small for it, in the very centre of the Forbury. It is the work of a Mr. Stevens, a native artist, and is very effective. It is a memorial to eleven officers and 317 rank and file of the 66th—the famous Berkshire regiment—which has its depôt here. These all fell at Maiwand, or during that partially disastrous Afghan campaign. The names are inscribed on the pedestal. And now visitors may pass at once from modern times to ancient by going out by the Abbots' Walk and inspecting the only remaining Gateway—the inner gateway of the great Abbey.

It has been rather too much restored, and is now like the lady who was assured by the polite Irishman, "Madam, whatever your age is, you don't look it." Still advancing towards the town St. Lawrence's is reached, one of the three principal and oldest churches. Here Laud's father was churchwarden, and Queen Elizabeth often occupied the Knollys' pew, on which occasions fresh rushes were in requisition. It has many objects of interest. It borders on the little market place, where befel one of the only fatal encounters during the advance of William of Orange up to London. Some Irish cavalry were driven out by the advancing troops of the Prince, and the townspeople are said to have fired on them to accelerate their departure. The victory was long commemorated by the ringing of bells, and is also kept in memory by a doggerel rhyme of the period:—

"Five hundred Papishes came there,
 To make a final end
 Of all the towne, in time of prayer,
 But God did them defend!"

With limited time there will be an *embarras de richesses*. Antiquarians will certainly visit the Silchester Museum, where His Grace of Strathfieldsaye has loaned to the town all that the Society of Antiquarians has been uncovering for some years past. This is described in the New Guide to Silchester (Miss Langley, London Street). Practically minded men may prefer the Messrs. Sutton's seed establishment or the Messrs. Palmer's biscuit factory (where they will be courteously taken over, so long as they are not engineers). Ecclesiastically minded persons, on the other hand, will visit St. Mary's, Minster Street, open all day long. They should particularly notice the roof, with its not ecclesiastical dormer windows; it is in fact the roof of the despoiled Consistory, which the town bought of the then Abbey owners, and evidently it might have gone further and fared worse. On the right coming out is a bright looking green sward, which could tell a strange tale of those who lie below. It was the place where they buried the once many executed, and a skeleton with a chain binding it was found there not long ago. After St. Mary's, and before it in architectural and antiquarian interest, comes Gray Friars in Friar Street, I believe a unique example of a friary church in England. When the Grand Benedictine Abbey broke down under its own weight the more humble Franciscan Monastery weathered the storm; the monks here were merely pensioned off, and turned out; whereas poor Abbot Hugh, having been found to have sent money to the Pilgrimage of Grace, was hung, drawn, and quartered in front of his own abbey.

After going through various vicissitudes Gray Friars was well restored, some fifty years ago, by an energetic archdeacon, and now makes, as it were, a fourth parish church. It is of grand dimensions, and great grace and beauty internally. The west window should be particularly observed, "being," says a local guide, "one of the largest and most elaborate specimens of network tracery in existence." But after all I am writing for horticulturists, and no doubt their steps will at once be directed to the Messrs. Sutton's "Portland Road Nurseries," where—

"The daughters of the year,
 One after one, through that fair garden pass,
 Each garlanded with her peculiar flower."

There, under glass, Primulas, Cyclamens, Cinerarias, Gloxinias, Begonias—I am not at all sure whether I have got the names, or order, right—are to be seen month by month in Nature's, or rather Art's, highest development. There, if the visitor is fortunate, he will find the *genius loci*, Mr. Martin, ready to expound the mysteries of hybridising, and perhaps to show some of the Sutton marvels—Tomatoes growing on Potatoes, and *vice versa*, and so on. A real object of interest will be the splendid *R. rugosa* hedge, over 40 yards long, and the new *rugosa* seedlings, it is to be hoped then in flower.

There is some reason to expect, also, that the great Rose gardens of the place at Leopold House may also be on view to members of the

N.R.S. It is just the size of the garden of Antioch, and almost as fair and fruitful. The owner is too wise to exhibit, but if he did his Roses would hold their own anywhere. He buys them by the bed, and gives them away by the barrowload. Near here, too, is that grand old Maréchal Niel which requires two glass houses, a hot and a cold, and has been giving its thousand blooms for now well on to thirty years. Its stem is a marvel of massive ruggedness.

Yet one more suggestion—Reading is pre-eminently a “city of waters.” The Thames alone would make an ordinary town’s fortune. Reading has also the Kennet. There are boats on both, the Thames certainly for choice. Aquatic exhibitors may prefer to go on the water. If they go upwards they will pass a very famous island, with “De Montford” Street running down to it from the Caversham Road. On this was fought the fierce combat between Roger de Montford and Henry Earl of

show, are obliged to come in. They may be considered an humble adjunct and useful background to the royal flowers. A paraphrase from an ancient verse may appropriately close these notes.

The month of months is the month of Roses,
Its smiling path is with Roses strewn;
And the sight of sights—each member knows—is
Our N.R. Show at the end of June.

—ALAN CHEALES.

ROYAL HORTICULTURAL SOCIETY.

DRILL HALL, JUNE 9TH.

THE exhibition in the Drill Hall on Tuesday was one of the finest that has been held in this structure, every foot of available space



FIG. 86.—A GLIMPSE OF READING ABBEY RUINS—THE WAY TO THE SHOW.

Essex; (see “The Island of the Combat,” Miss Langley, London Street). The reach is lovely above Caversham Bridge and under the Oxfordshire hills, and hardly less inviting the row down to Sonning.

One last word as to access to the show place. This is a matter of no small interest to arrivals with half a dozen boxes. How well I remember those terrible wanderings in cabs about South Kensington, first trying to find and then to get into the exhibition arcade! At Reading, as I hope like all else, the arrangements will be found approaching perfection. The G.W.R., the S.E.R., the S.W.R. are all close to the Forbury and Abbey ruins. Arrangements will be made by the energetic Secretary, Mr. Walker, of the Reading Horticultural Society, enabling cabs to enter at one end of the shady road along the Kennet bank, under the Abbey walls already mentioned, to put the boxes down at the very entrance, and then go away by Blake’s Bridge. Drivers should be told to enter by Abbey Street, close to Messrs. Ridley’s timber yard by the side of the Holy Brook.

It may be a surprise to some to find that it is not entirely a Rose show; but some £30 has been allotted by the local authority (which, after all, is horticultural) to other plants. These, not having had their spring

having been utilised for the exhibits. The show was particularly rich in hardy flowers, which were magnificently staged in great variety. Orchids were superb, one table being wholly devoted to them. Fruit and vegetables were both numerous and of excellent quality, Strawberries being especially fine.

FRUIT COMMITTEE.—Present: P. Crowley, Esq. (in the chair); with Rev. W. Wilks, Dr. Hogg, and Messrs. T. F. Rivers, M. Dunn, J. Cheal, A. H. Pearson, T. Fife, H. Balderson, J. A. Laing, G. W. Cummins, F. Q. Lane, A. F. Barron, G. Wythes, A. Dean, and J. Wright.

The Committee was kept busily engaged in examining the several products that were placed on the table or arranged in the crowded hall for examination. Prominent among these were Strawberries from Frogmore and Bedford, Nectarines in pots from Gunnersbury, and sundry Melons of the last named. The season has opened well with varieties of excellent quality.

Mr. Empson, The Gardens, Ampthill House, sent a small to medium-sized attractive fruit of the *Melon Anthony’s Favourite*, for which an award of merit was now granted; it is a rich scarlet flesh and rich in flavour. A first-class certificate was granted by eleven votes against three.

Mr. O. Thomas sent a golden faintly netted fruit of *Frogmore Orange*

Melon, a white-fleshed fruit with thin rind, sweet, juicy, and refreshing. Award of merit, nine votes to six.

Mr. W. Messenger, Wolverstone Park, Ipswich, sent a new *Melon*, *Freston House*, a full-sized, oval, well-netted fruit of faultless shape and noble appearance. It is a white-fleshed variety with a thin rind and delicious flavour. A first-class certificate was granted unanimously.

Mr. T. Denny, Down House, Blandford, sent a gigantic fruit of Goodrich's Nonesuch *Melon*, which was cut and tasted, but no award was made. Mr. Whitaker, Crewe Hall Gardens, sent an oval shaped *Melon* with a rather strong flavour. It was passed by the Committee.

Messrs. E. J. Sargeant & Co., Stratton Nurseries, Worthing, sent some remarkable *Melons* with extraordinarily thick netting. One was tasted, but no one could eat it; but another with a smooth rind and fine netting was very good indeed. If high flavour could be imparted to these thickly corded fruits they would find a place on many dessert tables. They are of French origin. Some fine *Capsicums* were also exhibited (silver Banksian medal).

Mr. Owen Thomas sent a splendid collection of early *Strawberries*, twenty-four varieties, gathered from plants raised from early runners last year, and planted in a rich south border at the beginning of August. The earliest variety was Laxton's No. 1, the first fruit of which was ripe on May 19th and the first dish gathered May 21st. The fruits were medium-sized, larger than those in an adjoining dish of Keen's Seedling, but were not tasted. Among other varieties were enormous fruits of Sensation, Leader, Monarch, Noble, Royal Sovereign, and Gunton Park, with fine examples of Sir J. Paxton, La Grosse Sucrée, James Veitch, La France, and Vicomtesse Hericart de Thury. A highly meritorious exhibit, for which a silver medal was unanimously awarded. Messrs. Laxton had a fine exhibit of *Leader Strawberry* in pots, bearing noble fruits in great abundance (vote of thanks).

Mr. J. Hudson sent four of Mr. Leopold de Rothschild's fruiting *Nectarine* trees in pots, denoting at once superior cultivation, and showing the difference in ripening between Early Rivers and Lord Napier, to the marked advantage of the former, of which splendid ripe fruits were placed on the table. Fine dishes of Early Rivers and Bigarreau de Schrecken *Cherry*, gathered from trees on the open wall, were also shown by Mr. Hudson. They are two fine dark *Cherries*, ripening in the order named. A silver Knightian medal was unanimously granted to Mr. Hudson for his meritorious exhibit.

Mr. Corbett, Mulgrave Castle, sent handsome fruits of Royal Sovereign *Tomato*, apparently of the Perfection type. Referred to Chiswick for trial. Mr. H. W. Ward sent from Longford Castle a tray of *Peas* grown in the open. Telephone, Duke of Albany, Telegraph, and Carter's Early Favourite *Pea* being represented by fine pods (vote of thanks). Mr. Wythes sent *Potatoes*, *Peas*, *Cauliflowers*, and *Strawberries* grown in the open ground, for showing the earliness of the season (vote of thanks).

Mr. Frank Chapman sent 100 heads of Colchester *Asparagus* from beds twenty-five years old. The stems had been earthed and were very thick (vote of thanks). Mr. Chapman, also Mr. Daniells, Bergholt, sent fruits of D'Arcy *Spice Apple*, but they were not in good condition. Mr. A. Pentney, Worton Hall, Isleworth, sent a collection of vegetables, also a good dish of Gunton Park *Strawberries* (bronze Banksian medal). Mr. Empson sent a most attractive collection of fruit and vegetables, including fine specimens of Royal Sovereign *Strawberry* (silver Banksian medal).

FLORAL COMMITTEE.—Messrs. W. Cutbush & Sons were represented by a group of plants, in which *Carnations* predominated, the blooms of pink and blush *Malmaison*, Countess, and *Germania* being exceptionally fine, while the foliage looked clean and healthy. *Carnations* were also shown in good form by Mr. Pentney, gardener to A. J. Howard, Esq., Isleworth, who had a mixed group, and Mr. G. Wythes, gardener to Earl Percy, Syon House, the latter staging well grown plants and fine flowers of *Malmaison*. A remarkably fine plant of *Carpenteria californica* covered with bloom was shown by J. T. Bennett Poë, Esq., Holmwood. Mr. B. Ladhams, Southampton, sent a large and varied collection of *Pinks*, many of the flowers being very effective.

A striking collection of hardy flowers came from Messrs. Jas. Veitch and Sons, Chelsea, which included *Paeonies* and *Delphiniums* in variety, fine spikes of *Eremurus robustus*, flowers of *Centaurea montana rosea*, *Hewchera sanguinea*, *Phlox ovata*, *Linum arboreum*, with *Gaillardias*, *Irises*, and *Oriental Poppies* in variety, the whole making up a very pleasing group. The same firm also sent hybrid *Streptocarpus* and a collection of *Cannas* composed of Austria, L. E. Bally, Madame Crozy, Progression, Paul Bruant, Cheshunt Yellow, Admiral Courbet, Star of 91, and several others, together with flowers of hardy shrubs, *Styrax japonica* (with a multitude of Snowdrop-like flowers, see fig. 87), *Hedysarum multijugum*, *Syringa japonica*, *Abelia triflora*, and *Benthamia japonica*.

Mr. Mann, gardener to C. F. Thompson, Esq., Llandaff, sent hardy flowers, consisting of Iceland *Poppies*, *Antirrhinums*, and *Pentstemons*. G. W. Ewen, Esq., Farnborough, sent flowers of a *Rose*, sport from Prince Edward of York. Messrs. J. Peed & Sons, Norwood, staged a mixed collection of foliage plants, comprising *Caladiums* Baronne James de Rothschild, Marie Freeman, William Bull, Ibis *Rose*, and others, with *Crotons*, *Dracenas*, *Palms*, and Maidenhair *Ferns*. Mr. J. F. McLeod, gardener to J. P. Morgan, Esq., Dover House, Roehampton, sent several well coloured *Caladiums*. Very attractive was the collection of garden *Roses* staged by Messrs. George Cooling & Sons, Bath. Amongst others were noticed Cooling's Single Crimson Bedder, Janet's Pride, York and

Lancaster, Old Tuscany, Henry Martin, Meg Merrilies, rugosa alba, Little Gem, Gustave Regis, Fringed Musk, and Splendens.

A pleasing collection of hardy plants came from the Guildford Hardy Plant Nursery, arranged in growing form on a miniature rockery. *Cypripediums*, *Saxifragas*, and others of the Alpine family were represented. Mr. George Prince, Oxford, staged *Rose* blooms composed of superb flowers of *Maréchal Niel*, *Comtesse de Nadaillac*, and others. Mr. C. Blick, gardener to Martin R. Smith, Esq., Hayes, sent plants of *Carnations* Her Grace and Nabob. G. Yeld, Esq., Clifton Cottage, York, staged a collection of *Irises* and *Hemerocallis*, the majority of which had been raised by the exhibitor, and included several pretty forms.

Messrs. W. Paul & Son, Waltham Cross, staged flowers of a hybrid rugosa *Rose*, Mungo Park. Messrs. Paul & Son, Cheshunt, were represented by a large exhibit, comprising single *Roses*, *Paeonies* in variety, *Pyrethrums*, *Phloxes*, *Irises*, and other hardy flowers, with superb *Cannas* of varieties Persimmon, George Paul, Alexander III., President Carnot, Amphion, Dr. Masters, Cheshunt Yellow and Comet. A most pleasing collection of flowers came from Messrs. R. Wallace & Co., Colchester, consisting of *Irises* in variety, *Cypripedium spectabile*, *Brodiaea ixioidea erecta*, *Brodiaea Howelli* lilacina, *Hemerocallis aurantiaca major*, *Paeonies* Margaret Attwood, Princess of Wales and The Mikado, *Calochortus pulchellus*, albus and venustus roseus, and *Liliums* in variety.

Hardy flowers in great variety were staged by Mr. M. Prichard, Christchurch, amongst others being *Paeonies*, *Irises*, *Orchis foliosa*, *Gaillardia maxima*, *Delphiniums*, *Thalictrums aquilegifolium* and purpureum, *Campanula persicifolia*, *Helenium pumilum*, *Campanulas persicifolia* and grandis. Cut *Roses* in variety came from Mr. G. Mount, Canterbury, consisting of good blooms of La France, A. K. Williams, Rubens, *Maréchal Niel*, Mrs. John Laing, Captain Hayward, Anna Ollivier, Viscountess Folkestone, Fisher Holmes, and others. Mr. J. Fraser, South Woodford, sent a collection of *Clematis* flowers, and seedlings also came from Mr. Noble, Bagshot. Mr. G. Stevens, Putney, showed several pretty seedling *Carnations*.

A large amount of space was occupied by Messrs. Kelway & Son, Langport, who showed in large numbers and great variety *Paeonies*, double and single, *Pyrethrums*, *Irises*, *Delphiniums*, comprising many charming varieties, with *Oriental Poppies* and other hardy flowers, the whole making up a gorgeous display. Mr. Neve, Hampton Court House, sent plants of a white seedling *Carnation*, Agnes; and Messrs. W. Balchin & Sons, Hassocks Nurseries, sent plants of a scarlet *Carnation*, Mrs. Kate Balchin. A most curious flower in the shape of *Puya Whytei* was shown by Mr. E. Gibbs, gardener to Miss Alice de Rothschild, Aylesbury, and was the subject of much observation. Mr. P. Ladds, Swanley, staged plants of a fine new fancy *Pelargonium* named Persimmon. A magnificent group of *Streptocarpus* was shown by Mr. E. Beckett, Aldenham House Gardens, Elstree. The plants were large, well grown, and carrying numerous clusters of delicately coloured flowers.

Mr. Chas. Turner, Slough, sent a fine group of *Carnations*, which included large flowers of Little John, Virgo, Ness, Delos, Miss Ellen Terry, Water Witch, Corunna, Tom Sayers, Fireball, Primrose League, Persimmon, and others. A superb group of *Cannas* was shown by Messrs. H. Cannell & Son, Swanley, consisting of Golden Queen, Duchess of York, President Carnot, Queen Charlotte, Golden Queen, Madame Crozy, Alphonse Bouvier, and others. The same firm also showed *Malmaison Carnations* Princess of Wales and white Stock Cannell's *camelliaeflora*. Messrs. Dobbie & Co., Rothesay, filled considerable space with hardy and herbaceous flowers, Sweet *Peas*, and *Violas*. Amongst the latter were Miss Dorothy Tennant, Norah, Mary, Lemon Queen, Iona, Lord E'cto, Ardwell Gem, and others. Included also in the exhibit was a fine collection of double *Pyrethrums*.

Messrs. Barr & Son, Covent Garden, made a fine display with hardy flowers, showing *Pyrethrums*, *Delphiniums*, *Persian Ranunculi*, *Irises* in variety, *Hemerocallis flava*, *Ixias*, *Oriental Poppies*, *Paeonies*, *Campanulas*, *Pinks*, *Gaillardias*, and others. Messrs. Hugh Low & Co., Clapton, staged a good collection of *Cannas*, consisting of Major Martin, John Laing, Francis Wood, President Chandon, Florence Vaughan, Papa, Pierre Dupont, Charles Moore, Charles Pallice, and others. An interesting group of flowering and foliage plants came from Messrs. J. Laing and Sons, Forest Hill, in which were included *Orchids* in variety, *Begonias*, double and single *Gloxinias*, *Crotons*, *Palms*, *Dracenas*, *Bertolonias*, and *Ferns*. Mr. T. Whillans, gardener to the Duke of Marlborough, Woodstock, showed vigorous plants of a new yellow seedling *Carnation* Admiration.

ORCHID COMMITTEE.—H. J. Veitch, Esq. (in the chair); with Messrs. J. O'Brien, De B. Crawshay, H. M. Pollet, H. A. Smea, J. T. Gabriel, T. W. Bond, W. H. White, Hy. Chapman, J. Douglas, E. Hill, W. Cobb, M. Mason, S. Courtauld, T. B. Haywood, H. Ballantine, and Baron Schröder.

As usual Messrs. J. Veitch & Sons, Chelsea, sent a group of *Orchids*, composed of plants rich both in quality and in variety. The health and cleanliness were remarkable. Amongst others were noticed *Dendrobium thysiflorum*, *Brassia verrucosa*, *Cypripedium Curtisi*, *Diaa kewensis*, *D. langleyensis*, *Cattleyas Mossiae*, *Schröderae* and *Mendeli* in variety, *Odontoglossum cordatum*, *D. crispum* in variety, *Epidendrum aromaticum*, *Dendrobium Dearei*, *Oncidium macranthum*, *Laelio-Cattleya Hippolyta*, L.-C. Canhamiana, and several *Cypripediums*. Mr. W. H. Young, Orchid grower to Sir F. Wigan, Clare Lawn, East Sheen, staged *Cattleya Mossiae* Mrs. Egerton Grey, C. M. S. Ashworth, and a superb *Miltonia vexillaria* var. *memoria* G. D. Owen.

Foliage plants were effectively intermingled in the Orchid exhibit of Messrs. B. S. Williams & Son, Upper Holloway. Of the Orchids the most conspicuous were *Vanda suavis*, *V. tricolor*, *Lælia tenebrosa*, *Odontoglossums* and *Cattleyas* in variety, *Cypripedium Stonei*, *Vanda concolor*, *Odontoglossum citrosum*, *Aurides odoratum purpurascens*, and *Perceaterei Lehmani*. Orchids are always well shown by Messrs. W. L. Lewis & Co., Southgate, and those staged were no exception. *Cattleyas* preponderated, but *Cypripedium niveum*, *Gertrude Hollington superbum*, *bellatulum* and *Hobsoni*, with a few *Oncidiums* and *Vandas* were noted.

Mr. Ballantine, gardener to Baron Schröder, The Dell, Egham, arranged a few superb Orchids, quantity being entirely subservient to quality. *Lælio-Cattleya eximia* was magnificent, as also were the several spikes of *Odontoglossum crispum*. Others were *Lælia majalis*, *Miltonia vexillaria gigantea*, *Sobralia Keinestiana*, and *Cymbidium pendulum atro-sanguineum*. Four Orchids only came from Mr. T. W. Bond, gardener to C. L. N. Ingram, Esq., all being *Lælio-Cattleyas*, named respectively *Electra*, *Pytho*, *Regalis*, and *regalis nigrum*. All were of considerable excellence, *Pytho* taking an award of merit.

Mr. E. Hill, gardener to the Hon. Walter Rothschild, Tring Park, staged *Spathoglottis Kimballiana*, *Catasetum splendens leucanthemum*, and *Coelogyne tomentosa*, the *Catasetum* receiving an award of merit. An interesting exhibit was that from Mr. W. H. White, Orchid grower to Sir Trevor Lawrence, Bart., Burford Lodge, Dorking. It comprised *Thunia candidissima*, *Lælia tenebrosa*, *Epidendrum Brassavolæ*, *E. prismatocarpum*, *Masdevallia Harryana*, *Lælio-Cattleya Arnoldiana*, *Thunia Brymeriana*, *Epidendrum fragrans*, and several others of botanical interest. W. Cobb, Esq., Tunbridge Wells, sent three or four Orchids in variety.

Orchids are always well staged by Messrs. F. Sander & Co., St. Albans, and the groups are conspicuous for the richness in the colour of the flowers. Very prominent were *Sobralia Veitchi*, *Lælia tenebrosa*, *Phycosiphon Loddigesii*, *Anguloa Ruckeri*, *Batemannia Burtei*, *Phaius Oweniana*, *Dendrobium densiflorum*, *D. suavisimum*, *D. crystallinum*, *Lælio-Cattleya Mardeli*, *Odontoglossum crispum* and *O. vexillarium*. Bright with flowers was the group arranged by Mr. R. Aldous, gardener to H. T. Pitt, Esq., Stamford Hill. There were splendid *Lælias*, *Cattleyas*, *Odontoglossums*, *Anguloas*, *Cypripediums*, and others.

Lælia tenebrosa Victor Warburton came from A. Warburton, Esq., Haslington, Manchester. The *Odontoglossum crispum* in variety from Mr. T. Masterton, gardener to W. S. Ellis, Esq., Dorking, were superb. The spikes were large, as also were the flowers, which in several cases were chastely spotted. Messrs. H. Low & Co., Clapton, staged a bright exhibit, mostly composed of *Cattleyas* in very great variety. Besides these there were *Epidendrums*, *Odontoglossums*, and *Cypripediums*.

CERTIFICATES AND AWARDS.

Brodiaea Howelli lilacina (R. Wallace & Co.).—This is a charming variety. The lower portion of the flower is bright lilac, while the upper is almost white (first-class certificate).

Brodiaea ixioidea erecta (R. Wallace & Co.).—The *Ixia*-like flowers of this *Brodiaea* are clear yellow in colour (award of merit).

Begonia Phosphorescens (Cutbush & Son).—A dwarf and extremely floriferous bedding variety with scarlet blooms (award of merit).

Canna Austria (J. Veitch & Sons).—A superb *Canna*. The colour is pure yellow, with the exception of a few small reddish brown spots in the centre (award of merit).

Canna Geo. Paul (Paul & Son).—The large flowers of this *Canna* are orange yellow in colour, deepening to buff as the flower ages (award of merit).

Carnation Admiration (J. Whillans).—A seedling that is said to be clove scented. The growth is vigorous, but the flowers staged were absolutely devoid of scent. The bloom is large, the centre petals are narrow, and the colour is soft yellow. The calyx is apparently prone to splitting (award of merit).

Carnation Delos (C. Turner).—The flower of this is large and of good shape, and so far as we could judge in the semi-darkness claret crimson in colour (award of merit).

Carnation Her Grace (C. Blick).—A magnificent variety. The colour is delicate flesh, but the flower is scentless (award of merit).

Carnation Nabob (C. Blick).—The petals of this variety are of splendid substance and the colour rich rosy buff (award of merit).

Carnation Ness (C. Turner).—A richly clove-scented crimson variety of much beauty (award of merit).

Carnation Virgo (C. Turner).—With a ground colour of pale yellow and splashes of bright rose this is charming. The flower is of good size and much substance (award of merit).

Catasetum splendens leucanthemum (E. Hill).—Very pale green is the colour of this interesting Orchid (award of merit).

Heuchera macrantha (Cutbush & Son).—This hardy plant throws up a long graceful branching spike of small elegant white flowers (award of merit).

Lælio-Cattleya Mardeli (F. Sander & Co.).—The parentage of this bigeneric hybrid was *Lælia elegans Turneri* and *Cattleya speciosissima*. The colour of the sepals and petals is pale blush veined and suffused with purple. The handsome lip is purplish crimson (award of merit).

Lælio-Cattleya Pytho (T. W. Bond).—A hybrid between *Lælia elegans Turneri* and *Cattleya Loddigesii*. This is very beautiful. The colour is rose purple, deeper on the lip, and almost white in the throat (award of merit).

Miltonia vexillaria memoria G. D. Owen (W. H. Young).—This is one of the most distinct varieties of *M. v.* that has ever been seen, and

the attention that this marvellous Orchid attracted was extraordinary. The prevailing colour was delicate rose with a faint white margin. But its distinctiveness lay in its centre, which was exactly the form of a moth, formed by two colours. The centre of the wings and the antennæ were velvety black crimson, the outer portion of the wing and the extreme tips of the antennæ being rich deep crimson. Apparently for its accentuation the moth has below it a white margin. The spike was staged by Sir Frederick Wigan, and a flower of it was sketched at the Drill Hall, fig. 88, page 537 (first-class certificate).

Odontoglossum crispum guttatum Lord Sherborne (T. Masterton).—A shapely flower of white colour, with pale brown blotches on the sepals and the lip (award of merit).

Pæony The Mikado (R. Wallace & Co.).—Rich rose is the colour on the inner portion of these petals and silvery rose the outer. The centre petals are narrow, somewhat after the style of the florets of a *Chrysanthemum* (award of merit).



FIG. 87.—STYRAX JAPONICA.

Pæony Margaret Attwood (R. Wallace & Co.).—Of the same style as the preceding, this is pure white in the guard florets, and has a yellow centre (award of merit).

Pelargonium Persimmon (P. Ladds).—A new variety of the Regal type, with fine trusses of scarlet crimson flowers. The habit of the plant is very good (award of merit).

Rosa rugosa fimbriata (Paul & Son).—The flowers of this Rose are of a delicate flesh tint, the petals of the blooms being elegantly fringed (award of merit).

Rosa rugosa, Rose Apples (Paul & Son).—Silvery rose is the colour of this charming variety, of which the flowers are very large (award of merit).

Rose Royal Scarlet (Paul & Son).—A useful variety for bedding purposes. As the name implies, the colour is clear scarlet (award of merit).

Awards.—The medals granted by the Floral Committee were:—Silver-gilt Floras to Messrs. Jas. Veitch & Sons, Paul & Son, and Ke way and Son; silver Floras to Messrs. Cutbush & Son, Peed & Son, J. Laing and Son, Barr & Son, Prince, and the Guildford Hardy Plant Nursery; silver Banksians to Messrs. R. Wallace & Co., M. Prichard, Dobbie and Co., G. Wythes, H. Cannell & Son, A. J. Howard, and G. Mount. The Orchid Committee granted silver Flora medals to Messrs. J. Veitch and Sons, R. Aldous, H. Lowe & Co., T. Sander & Co., and H. Ballantine, and silver Banksians to Messrs. W. H. White, T. Masterton, B. S. Williams and Son, and Lewis & Co.

HARDY FLOWER NOTES.

THE welcome change has come at length, and a copious rainfall has changed the aspect of the gardens and fields. The browned pastures and the dusty hedges are again bright, and clean and fresh. The sun has come out again, but Nature is refreshed, and the plants welcome her rays as warmly as yesterday they seemed to shrink from them. Thus is change needed and desired. Obscured by the falling rain, heavy laden with its weight, the flowers looked less bright; but we rejoiced, knowing that the earth was being charged to the full with the precious fluid, but for which our gardens would be deserts. Tasselled Pinks drooped over the rockwork's slopes, or hung to the ground in the border, yet we enjoyed their temporary discomfort. Pandora's box had still hope within, and we knew the sun would smile again, and our flowers would be brighter than before.

So it is, and now again the Eastern Poppies flaunt their orange scarlet banners in the sight of less gorgeous sisters, whose beauties are less conspicuous perhaps but more refined. The Shirley Poppies are so delightful that they need more than a passing glance, and we study with growing admiration the exquisite colours and texture of some. Pinks of many kinds—some double and large, and others single and small—are bright on border or on the rock garden's terraces. The Delphiniums, perhaps the noblest of all our herbaceous plants, yield us their massive towering spires of purple and blue; and Chinese Pæonies and single and double Pyrethrums add to the variety of form and colour, so plentiful now. Irises, increasingly admired, show us that if the Crocuses are now "dead to the world," their natural order can give us almost matchless beauty until the modern Gladioli enter the field. Some of the old Roses have opened their blooms in a hopeless attempt to vie with some of the newer ones in perfect beauty, or, perhaps with less ambitious intentions, seek to show that they too are worthy of our praise. The Lilies also join in the union of forces, whose coalition one would think would make it futile even to name beside them the unassuming gems of the rock garden. Yet, as we look along these low rockeries, we feel that no ministry of all the beauties of the border can ever hope to reduce to silence those quiet and simple flowers, which cling lovingly to the stones among which they grow. Let us look rapidly—for time is flying—at some of these ere passing to the more leisurely talk about some special flowers.

There are the creeping Sandworts or Arenarias, such as *A. montana* or *A. balearica*. There are Sun and Rock Roses whose fragile and "crinkled" blooms remind us of some of the Poppies, but are in most cases even more short-lived than they. Geraniums, at whose simple flowers the admirer of the "Geranium" of the popular nomenclature looks disdainfully, open their blossoms to give us quiet pleasure. The Basil-leaved Soapwort depends beautifully over a perpendicular stone, the brighter variety, *splendens*, pleasing all with its crowd of little flowers. Stonecrops, white and grey and red, mingle with some of the later Saxifrages, while Lithospermums or Gromwells and dwarf Bellflowers give us blue or purple flowers to vary the colouring. There are Potentillas, too, and Prickly Thrifts and Lychnises and the Golden Drop, and many more, refreshed by the rain and ready to please us with their beauty till the days shorten again and other plants take up the tale. So is the garden full of interest, full of matter for thought, and full of subjects for our pen—a thing small of itself, but of importance when we come to tell of individual flowers.

Among the most beautiful of the inmates of the rock garden is the new white variety of *Geranium sanguineum*, the Blood-red Crane's-bill. Very beautiful indeed is the plant on one of my rockeries, with its dwarf habit, its deeply cut roundish leaves, and its pure white flowers, free from any other colouring save a few small lines of green near the base of the petals. My plant was kindly given me by Mr. W. D. Robinson-Douglas of Orchardton, Kirkcudbrightshire, who found it growing among the many plants of the ordinary *G. sanguineum* on the sea coast near his own estate. It was the only white one he could find, and although there are thousands of plants of this pretty *Geranium* on the coast a little way from here I have not been able to meet with a white one wild among them. That there is, however, at least another stock I am aware, as a white *G. sanguineum* is being offered by a London hardy plant dealer. It is a most pleasing flower, and must I suppose bear the contradictory name of *G. sanguineum album*, the "White Blood-red Crane's-bill." We become accustomed to these things in names, as we have the "White Black Mullein," and a few others similarly formed. *G. sanguineum album* may be increased by division, but I have not yet ascertained if it will reproduce itself true from seed. In searching my commonplace book last night for a reference to another plant I came upon a description of a new *Lychnis* as it was offered in an American list last year. I had

recently seen the plant in flower, and could not help thinking how much should be subtracted from the glowing account of its merits.

The plant in question was called *Lychnis Flos-Cuculi plenissima semperflorens*, and here are extracts from its description. "Flowers delicate rose colour, and borne in exquisite sprays all over the plants from early spring until frost." "Decidedly the best hardy plant of its class that has been introduced for years." It is, as may be gathered from its name, a double variety of the well-known Ragged Robin, and is certainly much overpraised, although still of some value. It is considerably inferior in beauty to the double white Ragged Robin, and can hardly be truly called "the best hardy plant of its class that has been introduced for years." Its prolonged flowering remains to be proved, but the plant I saw began flowering in May.

Recently mention was made of one of the new hybrid Irises, *I. paravar*, being in bud, and a promise given that it would be spoken of when in flower. The eagerly looked for flower has at last come, and with it the time for the fulfilment of the promise. *I. paravar* is said to be a hybrid between *I. paradoxa*, one of the *Oncocyclus* or Cushion Irises, and *I. variegata*, one of the sub-genus *Pogoniris*. It was raised by Professor Michael Foster, whose world-wide reputation is enhanced in the eyes of lovers of flowers by his appreciation of and labour among the Irises. As usual, it is unsatisfactory to have to attempt to draw a pen and ink portrait of this Iris, so varied are its shades of colour. The colouring seems to partake largely of that of *I. paradoxa*, and one would suppose that the variety was that known as *I. paradoxa var. violacea*, which has dark violet standards. The standards of *I. paravar* are similarly coloured, and the short, rather stiff-looking falls are almost black at the end, and are marked with dark purple, white, and almost violet blue. The petaloid style branches may be called fawn with a darker shading difficult to describe. The conspicuous feature of the *Oncocyclus* Irises, the hairy "cushion," which extends down the claw and lower part of the blade of the flower, is very well marked; while the influence of *I. variegata* is principally observed in the number of flowers on the stem, which in my specimen is three, *I. paradoxa* only producing one, and in the height and vigour of the plant. *I. paravar* reached the height of 23 inches here this season, but the leaves are only about 8 inches in length. It is not a brilliant Iris, but possesses a beauty of its own, even if a little funereal in appearance when seen at a little distance. It does not require the drying off process almost, if not quite, essential to insure success with the pure *Oncocycli*, and has been grown here in the border in light sandy soil.

Not at all common and not at all showy is the *Zygadenus*, a plant belonging to the Natural Order Liliacæ, and of which it may be said that it is almost a degradation to the queenly flower—the Lily—to speak of it at this time as related to that "lady of the flowering field." Botanists tell us, however, that it is so, and as the *Zygadenus* is in flower as I write I may fitly say a little about it. The only one I grow is that named *Z. elegans*, which also appears to have been known as *Z. glaucus*. I saw it first a good many years since in the Edinburgh Botanic Garden, and raised it from seed a few years ago. This process is a little tedious, as the young plants did not attain a flowering size for some time. Now that they have done so I feel repaid for waiting, as I now have a clump, while had I purchased a single plant I would have had to wait for years before so good a clump could be secured. To-day my best spike has had a misfortune, as a man who was laying gravel on the walks had bent it over and defiled its flowers in spreading the gravel. Such are the sorrows of gardening!

Z. elegans produces from four to six linear glaucous green leaves from 1 foot to 1½ foot long and loose racemes of small flowers, greenish outside and whitish inside, each segment being marked with a green spot. It comes from North America, and is said to be figured in the "Botanical Magazine" (table 1680). This *Zygadenus* should have rather a moist and peaty soil, and I grow it in a pocket at the base of a rockery, where it receives frequent waterings in dry weather. It may be increased by division or by seeds. The only other *Zygadenus* grown at Kew appears to be *Z. glaberrimus* of Michaux, which I have seen but have never grown. There is considerable confusion among the names of the *Zygadeni*.

The large-flowered *Dictamnus* grown in gardens as *giganteus* or *davuricus* is so fine at present that I should have liked, had space permitted, to refer to it, but as other flowers have to be passed over at present its superior beauty can only be mentioned. My first *Nymphaea* has opened in my little Water-Lily pool to-day also, and as it marks the success of an attempt to grow these charming aquatic plants in a garden whose only water supply is that from a well one feels highly elated. This elation is not unpardonable under the circumstances. The success of the experiment opens up

a vista of new beauties which the garden in time will bestow, and the promise of fresh delights to its owner in working among and admiring more flowers than before. The Latin maxim, which, translated, reads, "We cannot all of us do everything," need not be cited as an argument for lack of effort. All of us cannot, nay none of us can, grow everything, but we can do much more than in the past to make our gardens more enjoyable than ever before.—S. ARNOTT.



ODONTOGLOSSUMS AT WEST MOUNT, KELVIN SIDE, GLASGOW.

A GRAND and imposing display of the above is now in flower at the residence of W. Stevens, Esq. I have during the last ten years watched with interest the growth of this superb collection, and I have no hesitation in saying that such a fine lot of well grown plants of such excellent varieties cannot be excelled in this country. They are grown in a span-roofed house, where at the present time there are upwards of 100 spikes in perfection. *O. Alexandræ*, with four and five fine spikes, are not common, but here they are, and grand examples of cultivation too. There are innumerable plants showing flower, so that this grand display will be kept up for some time. Besides the *Alexandræ*s, there are *Pescatorea*, *cristatellum*, *Halli*, *leutoglossum*, and its variety *mulus*, the bright *Oncidium concolor*, *Epidendrum vitellinum majus*, and *Masdevallias* flowering profusely, and reflecting great credit upon Mr. David Wilson, the gardener, who has had charge of this place for many years past.—ALFRED OUTRAM, F.R.H.S.

[Specimens of the Orchids referred to by our correspondent have reached us and they are superb. The varieties of *Odontoglossum crispum*, perfect in shape and in some beautifully spotted, are the best, but the others are such as can rarely be seen save in places where the energies are mainly directed towards Orchids alone.]

ONCIDIUM MACRANTHUM.

THE beautiful scented scapes produced at this season by this Orchid are hardly surpassed by any in this extensive genus, and yet how often is it arranged so that its distinct beauty can be seen? It is far from attractive when the spikes are twined round and round stakes placed in the pots, or trained straight up the rafters, as I recently saw it in a large Orchid growing establishment. The graceful jaunty pose of the individual blossoms is quite lost, and it, in fact, is when trained in either of these ridiculous positions inferior to many others not half so amenable to grouping with pretty effect. An ideal way of growing it, to my way of thinking, would be to place the plant in a fairly moist conservatory as soon as the spikes had attained a length of about a foot, arranging the plants, say at the base of some large Palm or Tree Fern, so that as the spikes lengthened they would take their own way, and eventually twine themselves about the foliage and stems.

My reason for this would be the fact of the blossoms each showing to its full advantage, an impossibility with any arrangement after they had opened, simply because the ovary at the base of the flower loses the power of turning to the light as soon as the latter opens. Where this method of arrangement cannot be carried out the plants may stand in any shaded position, preferably with a green background of Ferns, and by dropping a very fine twine or thread from the roof bars catch up the spikes at irregular distances loosely to form a series of festoons. Many other methods will suggest themselves to anyone interested in the tasteful arrangement of their plants, and must of course vary with the number of plants and other conveniences to hand; only let the arrangement be as natural as possible, and finish with it as far as may be convenient before the flowers open for the reason given above.

If reasonable care is taken in its culture *O. macranthum* is by no means a difficult plant to grow, but there are a few points needing strict attention, without which good results must not be looked for. In repotting the best material only should be used, and this in a rough and open condition, the roots being large and fleshy, preferring to ramble about over rough lumps of peat and charcoal rather than to being embedded in a finer more moisture-holding medium. About equal parts of peat and sphagnum moss with plenty of rough nodules of charcoal and ballast will suit it well, and the drainage should fill quite two-thirds of the depth of the pots. These should be of fair width, the roots spreading hori-

zontally, the base of the leading shoot at potting time being just above the rims.

It is not well to elevate them too much, for as the plants grow they gradually rise higher, owing to their habit of producing their bulbs, and it often becomes necessary to add a little moss and peat as growth proceeds. No harm is done by covering the older pseudo-bulbs, in fact it cannot always be avoided; but those that are still bearing leaves must be kept above the surface, as they frequently push back breaks that may be useful for propagating, or if left help to furnish the plant.

After repotting a rather closer and warmer atmosphere is advisable until the roots are again on the move, this being especially necessary if the plants have been much disturbed, an unwise proceeding when it can by any means be avoided. Growth commences in early spring, the embryonic shoot appearing in the sheathing base of the old leaves. If any suspicion of thrips exists the plants ought at this stage to come in for a thorough cleaning, for if this new shoot is attacked all hope of healthy progress is over for the season. The safest plan is to immerse the entire plant in a pail or tub of water for at least an hour previously, in order to drive out any insects that may be hiding in the compost. Have a weak solution of soft soap and tobacco ready to hand, and while the plants are still wet dip the heads in this right up to the



FIG. 88.—MILTONIA VEXILLARIA MEMORIA G. D. OWEN.

compost, but without touching the latter or roots. Lay them on their sides until all are dipped, then go over each plant separately and carefully with the sponge, afterwards rinsing them with clear tepid soft water.

This will, at all events, insure a clean shoot, and if the plants are grown in a moist and cool temperature progress will be rapid. As soon as the young shoots have attained a height of about 4 inches the tips of the spikes will be seen in each. Great care and watchfulness is essential if slugs or woodlice are plentiful, the insects named being very fond of the succulent flower spikes, and one night of their depredation may mean the ruin of many plants. The spikes grow quickly, the young pseudo-bulbs meanwhile growing away on their own account. Considerable activity will now be going on at the root, these foraging, as it were, for the moisture to maintain the growing shoot and spike. They are often pushed out over the tops of the compost, and it is at this time that the top-dressing mentioned above should be applied if seen to be necessary, so that these young vigorous roots enter it at once to the subsequent invigoration of the whole plant.

The production and maintenance of the large many-flowered spikes are naturally a considerable strain on the resources of the plant, and this must not be intensified by keeping them in a dry atmosphere while in flower, or allowing the spikes to remain on weak plants too long. It is not necessary to keep up moisture enough to spot the blossoms, but such an atmosphere as one expects to find in a carefully tempered fernery or similar structure. *O. macranthum* comes from Central America, and was introduced in 1867.—H. R. R.



EVENTS OF THE WEEK.—There is only one event of wide importance during the forthcoming week, and that is the Great York Gala. This will be even more important this year than in the past, as it is to receive a deputation from the Royal Horticultural Society. The show opens on Wednesday, June 17th, and continues open for the two following days.

— **WEATHER IN LONDON.**—Never was rain more welcomed in metropolitan districts than the heavy showers which fell on the evenings of Sunday and Monday, and very rapidly was the moisture absorbed by the parched soil. A steady downpour again commenced on Tuesday evening, and rain is still falling this morning (Wednesday), with the sky dull and leaden, showing signs of continuation.

— **WEATHER IN THE NORTH.**—From the 2nd inst. till Tuesday morning rain has fallen abundantly. The night of Thursday was extremely wet, as well as the following day. But more or less has fallen daily, and there was every appearance on Tuesday of its continuance.—B. D., *S. Perthshire*.

— **NATIONAL VIOLA SOCIETY.**—A meeting of the Committee, presided over by Dr. Shackleton of Sydenham, was held in the Museum of the Royal Botanic Society, Regent's Park, N.W., on the 8th inst. The Hon. Secretary, Mr. A. J. Rowberry, reported a rapid development of the Society, nearly 100 members having been enrolled during the past two months. Final arrangements were made for the show, which will be held in the Botanic Gardens on Saturday, the 20th inst., when it is anticipated that a very fine display will be made, the recent rain having come at the right time for the growth of exhibition blooms.

— **GARDENERS' ROYAL BENEVOLENT INSTITUTION.**—It is proposed to hold a meeting of all persons interested in horticulture in the gala field at the forthcoming York show on the 17th inst. The Committee has kindly granted the use of their Committee tent for the purpose at 4 P.M. The object of the meeting is to bring before gardeners and others, face to face, the claims of the Gardeners' Royal Benevolent Institution on their help and sympathy. It is expected that the Right Hon. the Lord Mayor of York will take the chair at the meeting. Sir Trevor Lawrence, Bart., Mr. H. J. Veitch (Treasurer to the Institution), Mr. G. J. Ingram (Secretary), along with others, are to address the meeting. Even yet there is much misconception as to the aims and objects of the Institution in question, which a little plain talking may do something to remove, and so enable not only the Institution to benefit somewhat now, but may possibly do something to benefit in the dim and distant future which lies before all of us, those who may be led to become either life members or subscribers to its funds. Mr. McIntosh of Clifton, York, joins me heartily as Hon. Local Secretary. All that we wish for is a good company at the meeting, whether subscribers or non-subscribers.—H. J. CLAYTON.

— **POTATOES AND FROST.**—In his note on the result of the frost which occurred on May 21st "R." refers to the varying effects it had on Potatoes, some being, he says, quite shrivelled, others escaped unhurt. Although we did not experience such a low temperature as that given by your correspondent on page 489, it was sufficient to cut the tops of Ringleader Potatoes on sheltered borders, while growing alongside the old Ashleaf did not lose a leaf, nor seemed any the worse after the frost had passed off, and its effects was as very clearly apparent in the size and early maturity of the tubers. The Ashleafs are all cleared, and the Ringleaders was destined for immediate use, but on lifting two or three roots it was deemed advisable to allow them to stand some time longer. The blackening of their tops naturally set up a secondary growth in the stalks, and the tubers must have been stationary for some days after the frost. The leaf of the Ashleaf is erect, while those of the popular Ringleader are of a spreading and drooping character, hence a greater surface was exposed to the foe. They are varying in texture, no doubt the one being of a soft nature, the other more hard and strong. I do not remember ever noticing the influence of frost so variable on one bed of Potatoes before, as affecting varieties, although it is common knowledge in the case of late spring frosts to see one stalk badly cut and its near neighbour escape. This happened in the bed of Ringleaders under notice.—W. S.

— **PRESENTATION OF VEITCH MEMORIAL MEDALS.**—At the last meeting of the Royal Horticultural Society the President, Sir Trevor Lawrence, Bart., presented four Veitch Memorial medals for services rendered to horticulture. Two of the recipients, Messrs. F. W. Burbidge, Trinity College Botanic Garden, Dublin, and Malcolm Dunn, The Palace Gardens, Dalkeith, attended in person, and received the medals at the hands of the President, who spoke of the career of the two recipients and of the services rendered by Mr. Burbidge in scientific and practical horticulture, and by Mr. Dunn in horticulture and arboriculture. Sir Trevor regretted the absence of the other two recipients, Messrs. M. Henri L. de Vilmorin, Paris, and Professor Sargent, Boston, U.S.A., but dwelt briefly on the services rendered by these gentlemen, as a recognition of which the medals were awarded.

— **SCOTTISH PANSY AND VIOLA ASSOCIATION.**—At a meeting of this Society, held on June 2nd, the following awards were made to various flowers:—Kate Robb, 30 points; A. H. Greenwood, 33; Geo. Virtue, 25; Co in Pye, 29; Mr. Owen, 25; Maggie Craik, 32; Wm. Smith, 27; Jas. Ferguson, 25; May Pye, 27; Mrs. Greenwood, 29; Dr. Jameson, 28; J. Crann, 35; Duchess of York, 44; Valkyrin, 39; Trilby, 33; Nellie Smellie, 30; Lizzie Paul, 26; Bella, 26; Althea, 29; Blanche, 24; Planet, 30; Rival, 26; Alpha, 35; Florence Pearson, 26; Crown Jewel, 38; No. 1, 25; No. 2, 24; No. 3, 29; to Fancy Pansy Mr. Jas. Warnock, 34, exhibited by Mr. Arthur Warnock, Carmunnock. The highest possible 48 points, those receiving three-fourths of total (36 and upwards) get first-class certificate, and from half of total (24) to 36 get certificate of merit.

— **RHODODENDRONS AT EARNOCK, HAMILTON, N.B.**—The estate of Earnock is one of the best kept in the west of Scotland. It is situated within a mile of Hamilton Town, but once within the gates of this noble establishment one can hardly imagine they are so near the town of Hamilton and the city of Glasgow. The luxuriant growth of the trees and shrubs is what one only expects to find in districts far away from cities and towns. The popular and much-esteemed owner, Sir John Watson, Bart., has spared no expense to make his estate beautiful. This he has succeeded beyond doubt. He has planted within the last twenty years many thousands of trees and shrubs, paying great attention to those most suitable for the district, and it must be very gratifying to him to find the labour and expense have not been in vain. The beautiful undulated grounds are now in perfection; the noble Chestnuts, the lovely Copper Beeches, the bright yellow Laburnums, the double scarlet Thorns, and the huge clumps of Rhododendrons of all the very best named varieties, with specimen Coniferae and bright beds of Azaleas dotted here and there, produces one of the most charming sights at the present time possible to behold. The views from the windows of the princely mansion are most charming and varied; one cannot fully describe the beauty of the various pictures of Nature as seen here. Should any persons interested in gardens be in the district they should visit this well kept place, where all-round gardening receives the support of its noble owner, and is well carried out by the practical abilities of his head gardener, Mr. James Moir.—A. OUTRAM, F.R.H.S.

— **DRYING FRUIT BY ELECTRICITY.**—It is well known that many fresh gathered fruits must be dried somewhat before being packed. This process, although an apparently simple one, necessitates great care, and the temperature must be well regulated, otherwise there is danger of the fruit being damaged. Large drying rooms are in use in some cases, heated by means of steam, and although this system may be cheap to work on a large scale it is not always so satisfactory on a small one. Fuel, moreover, is often expensive, and water power, in parts where the fruit trade flourishes, is usually abundant. In such situations it is suggested that electric heating could be used with advantage. The perfect regulation allows of any temperature being obtained, and, what is of great consequence in such an installation, practically no attention would be required. The electrical plant, too, could be used for lighting, and a few motors to aid the packing could easily be laid down. Uses such as this offer a fine field for development, and the gain made by bringing in cargoes of sound fruit would far more than cover the cost of running the necessary machinery. The above remarks, says a contemporary, have special reference to the storing, packing, and shipment of fruit to the English market; but the same treatment as to drying might well be adopted in connection with our English fruit gardens, and it is quite possible that some such process might materially assist in making our orchards more profitable, and lead to those extensions so much to be desired.

— MAY RAINFALL AT ABBOTS LEIGH, HAYWARDS HEATH, SUSSEX.—The total was 0.25, being 1.70 inch below the average. The heaviest fall was 0.14 inch on the 21st. Rain fell on four days. Total for the five months 4.27, which is 6.09 inches below the average. The maximum temperature was 75° on the 12th, the minimum 30° on the 2nd. Mean maximum, 61.07°; mean minimum, 39.09°. Mean temperature, 50.08°, which is 4.15° below the average.

— MAY WEATHER AT HODSOCK PRIORY, WORKSOP, NOTTS.—Mean temperature of the month, 52.9°. Maximum in the screen, 77.6° on the 12th; minimum in the screen, 27.0 on the 3rd. Minimum on the grass, 18° on the 3rd. Number of frosts in the shade, five; on the grass, fifteen. Sunshine, 188 hours, or 39 per cent. of the possible duration. Rainfall, 0.56 inch; rain fell on six days, maximum fall, 0.37 on the 21st. Another warm and dry month; days particularly warm, but some rather sharp frost in the first week.—J. MALLENDER.

— WEATHER IN SOUTH WALES.—The following is a summary of the weather here for the past month:—Total rainfall, 0.14 inch, which fell on three days. Total amount of sunshine, 239½ hours. There was only one sunless day, the 2nd. The wind was in the N.E. on twelve days, and in the N. on twelve days. There have been very strong, cutting winds throughout the month, which, with the bright sunshine and no rain, have been very detrimental to vegetation. The drought broke up here on the 2nd of June, since which time we have had a trifle over half an inch of rain.—W. MABBOTT, *Dowlais, Glamorgan*.

— THE WEATHER IN MAY.—May was bright and dry with a variable temperature. The wind was in a northerly direction twenty-five days. Total rainfall only amounted to 0.65 inch; this fell on five days, the greatest daily fall being 0.40 inch on the 21st. Barometer, highest reading, 30.266 at 9 A.M. on the 25th; lowest, 29.584 at 9 A.M. on the 20th. Thermometers, highest in the shade, 77° on 12th; lowest, 32° on 1st and 6th. Mean of daily maxima, 62.77°; mean of daily minima, 41.38°; mean temperature of the month, 52.07°; lowest on grass, 22° on 2nd; highest in sun, 136° on 25th; mean of earth at 3 feet, 51.09°. Total sunshine, 188 hours 50 minutes. We had one sunless day.—W. H. DIVERS, *Belvoir Castle Gardens, Grantham*.

— FILMY FERNS.—The interesting article by "Filice," in last week's number, forcibly reminded me of a Fern case similar to the one he mentioned as suitable, that for many years stood in a back window of not a surgeon, but a shoemaker in Bristol. In the intervals of leisure this man found time to cultivate his Filmies, and well they used to thrive with him, especially *Todea pellucida*, that made too much of itself, and had to be removed, greatly to the owner's sorrow. *Hymenophyllum demissum* and *Trichomanes radicans* in variety were also included, and the success attained by a man quite uninitiated in gardening was quite remarkable, seeing how many fail to grow these charming Ferns well.—R. C.

— FERNS IN CALIFORNIA.—The climate of California is very dry for two-thirds of the year, so that one could hardly expect to find many of this class of plants, whose leading requisite, generally speaking, is moisture. Yet there are about fifty species, not hidden in shady, moist nooks, but exposed to full sunshine, often high up on the face of rocks. The strange anomaly is explained by the fact that all of these species are adapted for the positions which they occupy, either by having a very much thickened epidermis, or by being covered with scales or a dense cottony covering of hairs by which the moisture in the fronds is economised and its loss prevented, or rather regulated, according to the peculiar circumstances of each specific case.

— AUSTRALIAN FARMING.—Referring to Lord Hampden's remarks that "if he were a young man starting in life he would be an Australian farmer," the "Sydney Herald" observes that perhaps his lordship may have something to learn on average settlers going on the soil. "If the sturdy yeoman's means are limited he has to find a selectable spot in the wilderness, which is no easy job to begin with, burn off the timber, build a humpy, and put in a crop which, if not killed by drought, or eaten by bandicoots, or consumed by bush fires, may after the first year yield him damper. Next year, if he is not ousted for inability to pay interest, and everything does not happen to be carried away by a flood, and the neighbouring squatter does not wear him out with litigation, and the roads are not too boggy to get to market, he may achieve salt junk. After that, by carefully patching the pants with flourbag, and fastening them to his braces with a rusty nail, so as to save the expense of buttons, and other economies, he may, if the seasons keep tolerably good, struggle along to an early grave under a ringbarked Gum tree, and by dint of worrying the local member get his sons into the police."

— ROYAL METEOROLOGICAL SOCIETY.—At the ordinary meeting of the Society, to be held on Wednesday, the 17th inst., at 7.30 P.M., the following papers will be read:—"Arctic Hail and Thunderstorms," by Henry Harries, F.R.Met. Soc.; and "Climatology of Valencia Island, Co. Kerry," by J. E. Cullum, F.R.Met. Soc.

— GRAFTING.—I notice in the *Journal of Horticulture*, April 16th, 1896, page 355, mention being made of an improved method of grafting by Mr. Smith. This form of grafting was practised at Bickton by the late Mr. Barnes in the year 1861, when I was apprenticed there.—W. BENNETT, *Rangemore*. [The insertion of the word "new" was purely accidental. We have successfully practised the method in question for thirty years.]

— AMSONIA TABERNÆMONTANA.—This strikingly attractive and half-hardy herbaceous North American Dogbane, and which is so nearly related to the genus *Plumieria*, eminently deserves more extended cultivation. There are two large plants of it in full bloom at the present time in the Botanical Garden, Birmingham, growing in a border under the shelter of one of the greenhouses, and where its wealth of grey blue star-shaped flowers, disposed over the numerous stems of about 30 inches high, renders it at once one of the most attractive border plants in the whole place.—W. G.

— GARDENERS' ROYAL BENEVOLENT INSTITUTION.—We are asked to acknowledge the following contributions, which were omitted in former list, making the total amount received as a result of the festival dinner, £2200. Mr. Geo. Monro's list, £25 (including his and Mrs. Geo. Monro's donation of £5 5s. each); Messrs. Haage & Schmid, £1 1s. 9d.; Mr. E. F. Fitch, £1 1s.; Mr. David Smith, £3 3s.; Mr. Jamieson, £3 3s.; Messrs. Dippe Bros., £1; Thames Bank Iron Company, per Mr. W. Y. Baker, £17 17s.; per Mr. H. J. Cutbush, £11 11s.

— COTTON SEED OIL.—It is stated in a report from New Orleans that in 1889 there were a few small mills making Cotton seed products worth, perhaps, £1,000,000. Now the trade uses a capital of near £8,000,000, and makes a product worth over £14,000,000. The material consumed was regarded as worthless in 1861. In 1892-93 the price was £3 10s. per ton, but fell to about £3 per ton or under. In 1894-95, owing to the largeness of the Cotton crop, the price fell to less than £2 a ton. There are some 300 mills manufacturing Cotton oil from the seed. The value of the foreign business in 1895 amounted to over a million. The greatest demand comes from Great Britain.

— CURIOUS SEEDS.—In the "Botanical Gazette" for April, an interesting case of mimicry is described, the seeds of the "Philippine Island Bean" from the coast near Manila, so closely resembling the quartz pebbles amongst which they fall, in shape, size, colour, lustre, hardness, and stratification, as to be indistinguishable from them except by a very close examination. The size and shape of the beans are both very variable, ranging from 10 to 23 mm.; some perfectly resemble well-rounded beach pebbles, while others mimic pebbles which have been broken across. Their colour varies from moderately dark to light drab, some giving a faint greenish tinge; others resemble pebbles of chalcedony or of crystallised quartz. Nearly all the specimens show a series of approximately parallel darker lines passing round, very suggestive of stratification. All are quite hard, cut only with difficulty with a knife, and give a clinking sound when shaken together in the hand. They are not affected by soaking in sea water.

— DOCKS.—The Docks, which are often so troublesome on all kinds of cultivated lands, thriving especially on the very soils which are most productive, are nearly allied to the Sorrels, as anyone would infer from the similarity of their flowers, but the foliage is not acid. The red-veined species (*Rumex sanguineus*), the Bloodwort, as it is called in villages, has large egg-shaped leaves; and when the middle vein is red, as it often is, it is readily distinguished. It was probably from this tinge that it was formerly believed to be a good purifier of the blood. It was also cultivated in old gardens for the table, but when boiled is very insipid, and from its dark colour looks very uninviting, though it is perfectly wholesome. Like many another of its congeners, it gives the farmer much trouble, for the seeds of Docks are very plentiful, so that the plant springs up and yields a crop as if it had been sowed. The roots will grow, too, though cut into many pieces, and thus much expense is incurred by the necessity of clearing them fairly out of the soil. On corn lands these plants, not only by their large leaves, take up the soil, each foot of which has cost the agriculturist both care and money, but often also cause much labour by their seeds, which are carried off the land with the straw, and soon spread all over the farm.—("Rural World.")

GARDENS ABOUT LONDON.

SYON HOUSE.

It must ever be a moot point which aspect should be taken in giving a few notes of Syon House, whether its history ought to be accorded the position of paramount importance, placing the gardens and gardening in the secondary place, or *vice versa*. That the vicissitudes through which this house has passed have been stirring and varied cannot be doubted for a moment when the fortunes of the Northumberland family are glanced over in the mind. Prior to their having possession the estate belonged to the Protector Somerset, and was either then or just after utilised as a haven of refuge for nuns. For upwards of three centuries the mansion and the surrounding estate have been connected with the Dukes of Northumberland, and it is sincerely to be hoped that this family—which has embraced and embraces some of the most illustrious men and women of our country, may continue there in the home of its forefathers, and be as honoured as of yore far away into the dull, grey mists of time. Worthily have the family traditions been upheld in the past, and none could think they would be less so in the future.

However, it is not proposed to deal here with the history of Syon, but rather with its gardens, though in doing even this it is necessary to look back for a long period of years. So well is the mansion known that

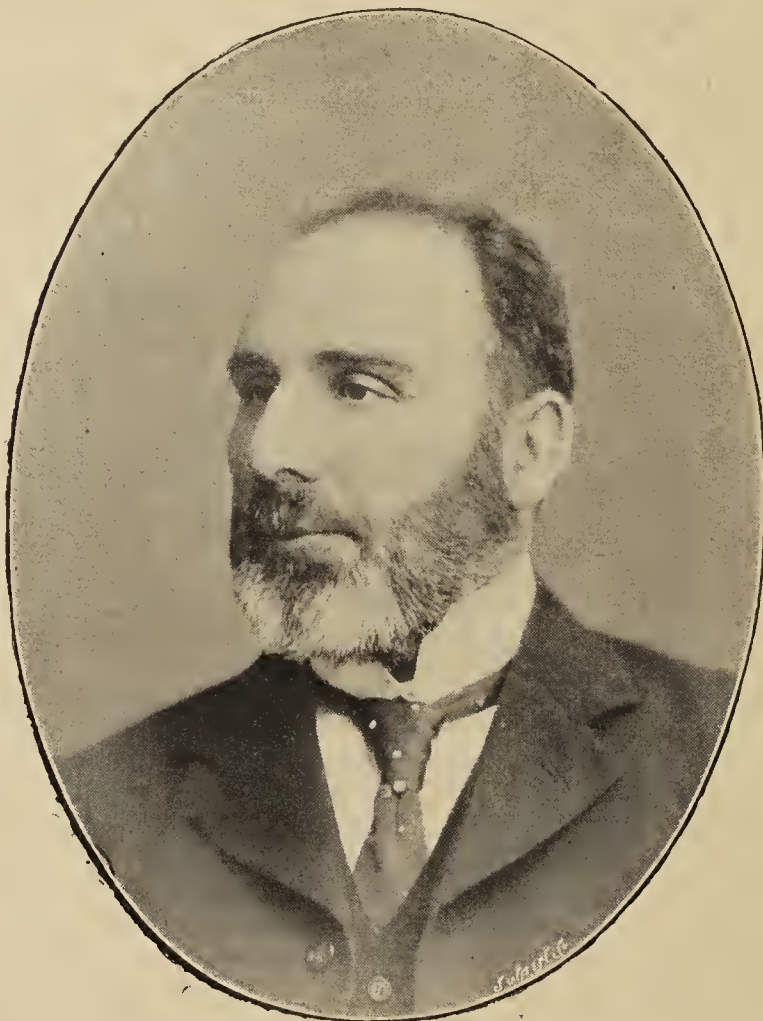


FIG. 89.—MR. GEORGE WYTHES.

it is almost unnecessary to make any mention of it; but perhaps some do not know it, so it may be said that it is a massive pile of grey stone built in the form of a square with a hollow centre. An explanation of the adoption of this style of architecture may be found in the use to which it was put—namely, as a refuge for nuns. Here they found protection behind its substantial walls, the centre square before mentioned being utilised for exercise and recreation for those immured. Three hundred and more years has this great house been erected; to-day it stands almost as perfect as it could have been in its youth, and certainly its attitude and surroundings are infinitely more peaceful. Travellers by the thousand, on the river and walking in Kew Gardens, have regarded with interest the immense pile of masonry arising a few hundred yards back on the Middlesex side of the River Thames, and have known by the lion standing on the housetop over the river entrance that this is the home, or rather one of the homes, of the Northumberland. Let those who have not yet seen the house look well at it when next on the river or at Kew, and in its substantiality they may read the power of the family in the past, when its head was almost equal to England's ruler.

In this stretch of verdure from the mansion to the river what possibilities lie before the landscape gardener! There one might conceive, if bold enough, a riverside garden of surpassing beauty. Will this improvement ever be made? Possibly not; and yet one never knows what the future may hold. Divided from the pleasure gardens by a sunken wall the river front is now browsed on by sturdy, hard, fierce-looking Scottish cattle, and even these add a share in the beauty of the

place. But they are not the only occupants, for they have as companions some stately trees, less fierce perhaps, but equally as hard and as sturdy. They have weathered many a gale, and have not in the tussle with the boisterous elements come out unscathed, as may be seen in the absence of many a top and branch; still they look to be capable of passing through other ordeals that may be still in store. Pages might be written of the trees alone at Syon, and to some of them attention will now be called, but it will only be to a few of the many.

The Mulberry tree was ever a tree of interest, and truly could the one growing in comparative contiguity to Syon House speak it would tell a history that many would like to hear. For 300 years it is said to have grown and flourished through times of famine and of plenty, and now it stands on its ancient mound a true veteran of its race. Few are the signs of decay about it, each year it produces its leaf buds, its blossom buds, and its bounteous crop of fruits. Of the Cedars of Lebanon one would require the most facile and fluent of pens to accord the full measure of justice. They spread their gaunt arms and leafage over many square yards of ground, and rise before the eyes in an almost idealic form of picturesque and imposing grandeur. Every now and again a branch will be swept from its parent, and though the tree's symmetry is thus destroyed it still retains its great attractiveness.

One of the most curious of the hundreds of trees on the estate is the *Taxodium distichum*, growing on the margin of the lake (close to the Black Pool of Mrs. Henry Wood), and which is producing "knees." In Veitch's "Manual of Coniferae" reference is made to this remarkable root growth, and an extract relative to it is made from Loudon, as follows:—"The roots of large trees, particularly in situations subject to inundations, become covered with conical protuberances, commonly from 18 inches to 2 feet high, and sometimes from 4 to 5 feet in thickness; they are always hollow, smooth on the surface, and covered with a reddish bark like the roots, which they resemble, also in the softness of their wood. No cause has been assigned for their existence, they are peculiar to the deciduous Cypress, and begin to appear when it is from 20 to 25 feet high. They are made use of by the negroes of the Southern States for bee hives." Continuing, Mr. Veitch says, in giving an excellent wood engraving of the tree:—"In England these protuberances or 'knees' are rare; at Syon House, the seat of the Duke of Northumberland, where are some of the finest deciduous Cypresses in Britain, 'knees' have been produced." In 1881, this being the year in which the sketch above referred to was done, the tree was 90 feet in height, and the "knees" extended 60 feet from the bole. Another tree worthy of note is the Cretan Acer, *A. cretica*, and which is the largest in the kingdom. Unfortunately Mr. Wythes cannot propagate from it, though he has tried every possible expedient.

Besides these there are hundreds of others of which many lay claim to being the finest of their kind in the country, and in all probability with ample justification. To the ardent arboriculturist Syon is a veritable museum of interest, which is materially added to by the fact that at least one specimen of every kind is named. The labels used are strong ones made of enamelled iron, and have printed on them in easily legible characters the name of the tree and the country to which it is indigenous. This is quite as it should be, and to His Grace the Duke of Northumberland arboriculturists are indebted for the adoption and maintenance of this system at Syon. Few are those who know trees better than this nobleman, and it is to his love of them that may be ascribed the numberless additions that have been made to the collection during the last two or three decades. From remote quarters of the globe have come specimens, and almost the whole of them have flourished far beyond expectations. Their care is now, and has been for the past eight years, in the hands of Mr. George Wythes, the excellent chief of the garden and pleasure grounds, who, in the role of conductor, proves himself as efficient a historian and raconteur as the estate in his charge demonstrates him to be a thorough gardener. But of his work more anon.

As the trees are the greatest feature of the pleasure grounds they have been dealt with apart from the remainder, and towards these latter we will now wend our way. Would that the paths of life were always as peaceful, as pleasant, as healthful, as varying, as instructive as the one through which we wandered. On the left the river Thames in its winding course, bears on its waters rowing boats, noisy tugs, listless barges, and smart steamers full of holiday-makers, while beyond these could be seen the many people enjoying Kew Gardens, the scarlet jackets of the golfers also gleaming through the trees. To the right hand are trees and shrubs, some with gorgeous flowers—the golden rain of the Laburnum, the snowy puffs of the Gueldres Rose, the soft-hued, fragrant flowers of the Lilac, others conspicuous for the wondrous beauty of their leafage, and here from the historian our guide becomes a gardener again. He tells how "Capability" Brown had a supervising interest in the formation of these gardens; how Time has had his way in changing things, as he always does; how some trees have died, or, on the other hand, grown so strongly as to require a check; and how it has been absolutely necessary to make several alterations, of which, unfortunately, the innate modesty of the man makes it difficult to learn full particulars.

Progression is naturally slow, as footsteps must be arrested very frequently to examine some charming tree or shrub, or to catch a

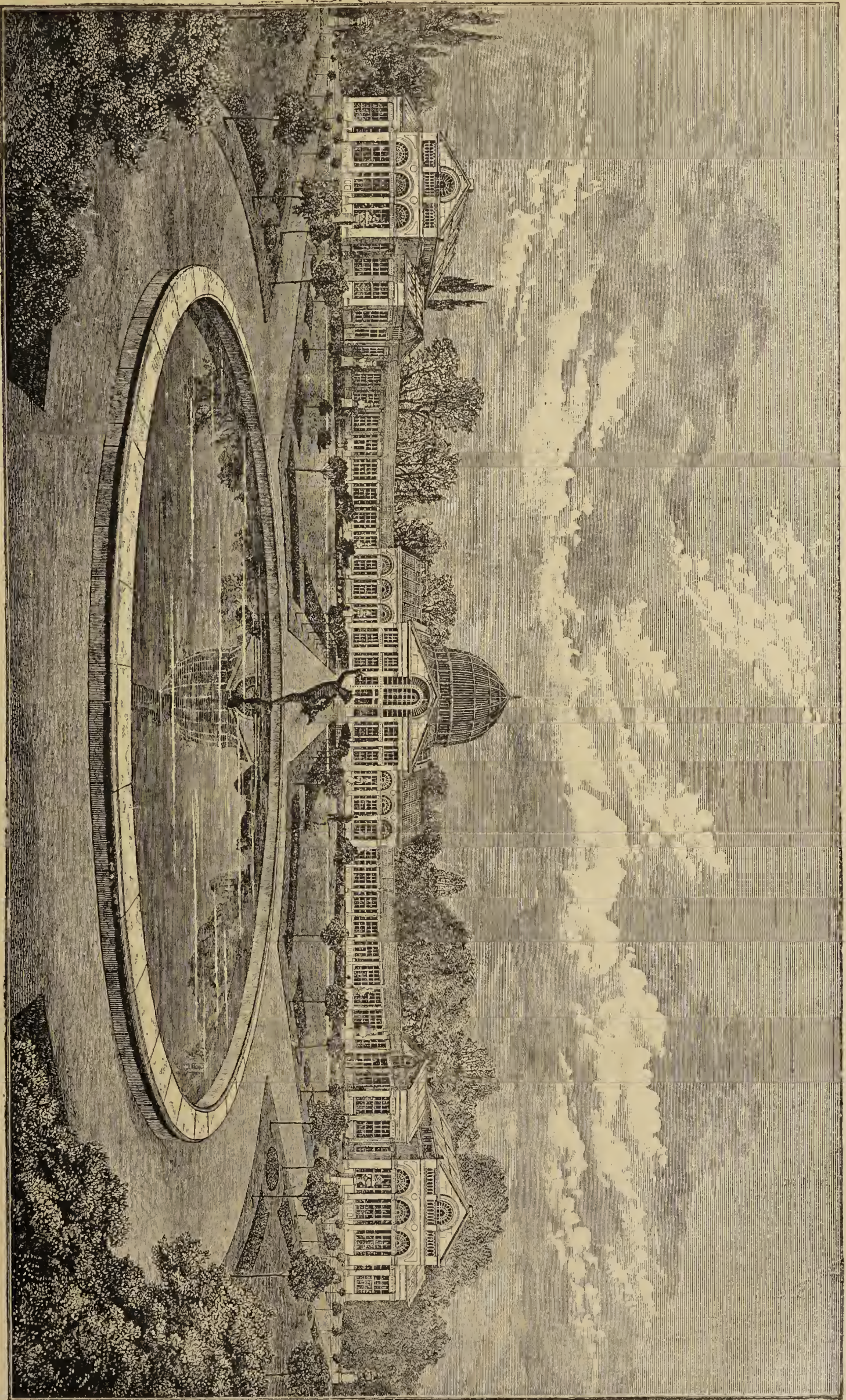


FIG. 90.—THE CONSERVATORY AT SYON HOUSE.

(Reduced from the Gardener's Chronicle.)

glimpse through a vista in the trees. The peeps are numerous and the effects extremely varied, all giving pleasure to the beholder. Occasionally our guide drops a word that tells us he has had a hand in this or that view, but such admissions are all too rare. At last we reach the end of this riverside path, and find something that, while having no relation to gardening, is of exceeding interest. In the days of State barges, when river pageants were the most popular and aristocratic means of travelling from one place to another, each house by the river had an entrance for its barges, and that of Syon was what was found. Entrance was effected by descending a flight of stone steps, and when inside we saw a historical relic in the form of the barge that conveyed the ill-fated Lady Jane Grey to the Tower of London, whence she never returned. It is slung by thongs from the roof of the boathouse.

But there is no time to linger, and we arrive at the Rose garden. No poet's fancy could paint a more ideal home for the queen of flowers. Sheltered by stately trees, the beds let into turf of velvety softness, the Rose garden must be, when the flowers are at the zenith of their beauty, a dream of loveliness, for the plants are in the condition that shows the controlling influence of a master hand. It is a Rose garden that might to some eyes be considered all too limited in dimensions; but what matters it if it be comparatively small when the flowers in colour, form, and fragrance are so delightful. "Size," the true Rose and Nature-lover will ejaculate, "is as nothing when all else is in such condition." But we must pass on.

Parallel with the riverside path is a gravel walk leading through wood and dell back to the mansion, and commanding here and there some of the most superb views through the trees to the river and over the broad and undulating park that one could wish to behold. Alterations have been made freely in this portion of the grounds, and each one has been such as conduces immediately to improvement. We pass by great clumps of Rhododendrons with but a cursory glance, brush masses of Spiræas and Daphnes, that tell their presence as well by their delicious fragrance as by their beauty—aside, through copses of evergreens and undergrowth, until the house looms before us, and we step forth once more into the glorious sunshine from the softly subdued light of the grounds through which we have traversed.

We next approach the flower garden and the conservatory. Look for a moment at the illustration (fig. 90, page 541) which we are enabled by the courtesy of the Editor of the *Gardeners' Chronicle* to reproduce. Is it not a magnificent structure? While not less imposing is the interior. Stand under the central dome; a forest of Bamboos surrounds you, great Palms and Ferns rise yards above your head, the Banana carries its luscious burden, the *Monstera deliciosa* is at home, the—but enough. Do the plants make progress? Well, yes, considering the fact that the first named grows anything from 12 to 24 inches in the latter number of hours.

Right and left from the dome run the arms of this splendid building, and in passing through we find on each side stages filled with plants in pots, and above a roof from which at intervals depend some charming creepers. No monotony here, the plants are ever changing, and with the extraordinary variety there exists a really surprising evidence of good health, which is especially pronounced this season, for the simple reason that Mr. Wythes had the hundreds of yards of piping altered so as to insure an equable temperature, which had not previously been attainable. Each arm culminates in a square, where for Camellias of immense size are found suitable places. It is worthy of record that all the rafters in this building are made of solid copper, and it may safely be surmised that many thousands of pounds have been expended ere the erection was completed. But it will last, and coming generations will see, examine, and admire the conservatory at Syon, unless it be that someone should have it destroyed, than which nothing is more unlikely. This alone is a garden, but as such we must not now regard it, or the other features that go to fill the measure of Syon cannot be noted.

In the foreground of the illustration to which attention is drawn in the preceding paragraph is seen the flower garden. It is of fairly large extent, and adds its mite to the 60 odd acres that comprise the pleasure and flower gardens. A trifle stiff perhaps, but it must be remembered that it is a typical example of flower gardening as it was in the days of formal bedding. As such it must be regarded. Such flowers as Zonal and other Pelargoniums, Begonias, variegated Abutilons, scarlet and blue Lobelias, Violas, and Pansies are amongst the most conspicuous in the majority of the arrangements. Carpet bedding is also done, but only to a very limited extent, and is welcomed for this reason; and the designs, though changing with every season, are always of much interest and beauty. Flanking the fountain are two long beds, in which Crozy's Cannas are to be the feature, and very charming they will be in August if the weather prove favourable.

When referring to the trees one or two here might have been named, but perhaps they come more appropriately with the garden to which they are such ornaments. There are magnificent specimens of the Scottish Laburnum and Magnolias amongst others. Towering to a height of almost 40 feet, and with a like spread of branches, is a specimen of *Magnolia conspicua*, which is said to be the largest in

the country. Immediately facing it is another, probably planted at the same time, but it makes little progress, for the reason that it catches the full power of the biting north-east winds, from which No. 1 is amply protected. *M. Soulangeana* is also represented, but not on such a scale as *M. conspicua*. Irises, mostly German varieties, make this garden pretty in the early summer months, and they have this season been superb, though now, of course, they are rapidly getting over, and will in a day or two be numbered for another season amongst the beauties that have gone.

As the transition may be effected by the easiest of stages we will now turn to the flowers as grown under glass, and in the borders of the vegetable garden. They are naturally of an extremely varied nature, but all are well grown. Syon is not, like The Dell, Burford Lodge, and Sunningdale Park, renowned for its Orchids; but it is nevertheless a fact that Mr. Wythes can always set up a group that is of the greatest credit to him, as witness the collection staged at the recent Temple show. The plants of *Odontoglossum crispum*, *Cymbidium Lowianum*, *Vanda teres*, *Dendrobium Dalhousianum* (superb), *Cypripedium barbatum* and others, are carrying flowers noticeable alike for colour, form, and substance, while those not in flower are evidently in the best of health. With these brief words we must perforce dismiss the Orchids and turn, if only for a moment, to the Carnations. Of these the *Souvenir de la Malmaison* varieties are making the most imposing display, as will be readily believed when it is said that the splendidly grown plants are principally of Mr. Martin R. Smith's varieties, obtained through Mr. Jas. Douglas. There are also other Carnations of equal quality in all respects though not of the *Malmaison* type, but these cannot be particularised now.

Rich are the structures now with decorative and Ivy-leaved Pelargoniums, Gloxinias, and other flowering plants, with Caladiums, Crotons, Dracænas, Ferns, Palms, and Pandanus amongst the many with beautiful leafage. Notwithstanding the fact that the structures are old and glazed with thousands of squares of glass that often become dulled by London smoke, the richness and depth seen in the colour of these leaves is really exceptional. The delicate tints of the Crotons, the soft, mingling gradations of the hues of the Caladiums, the rich clear green and pure white of the Pandanus are all alike splendid in their development. The Ferns in the lean-to fernery, principally *Adiantum cuneatum*, are numerous, and with the Asparagus, which rambles over the back wall of the structure, provide thousands of sprays and fronds for cutting. From the mention of Ferns we might turn to other plants that are now in flower in the houses; but we must continue our pilgrimage, or we shall not even now, after all this time, succeed in getting a look all round, for there is yet very much to see and to appreciate ere it can be said with truth that all has been seen at Syon.

Before entirely dismissing the flowers it behoves us to say a few words anent those grown on the borders of the vegetable garden. Indeed, one whole border of considerable width and length is wholly devoted to the culture of perennials. Though this border has only been made a comparatively short space of time the plants are looking remarkably well, and one could at almost any time gather great armfuls of flowers and still leave enough to make a goodly display. Extending at right angles to this border is another of the same width, but rather shorter, in which are growing some hundreds of Carnations that have been raised from Mr. Douglas' seeds. The plants are of fine habit, and give promise of the production of a perfect plethora of flowers. Besides these there are other borders of Carnations, all in the same praiseworthy condition.

The pleasure gardens and the flowers, in and out of doors, having now been accorded brief attention, there still remain the fruit and vegetable departments, and as Mr. Wythes excels in each, it is with difficulty that a decision is arrived at as to which shall have the first attention. After much cogitation it was determined to place them alphabetically, and in no particular order of merit, thus fruits stand to the fore. In the art of growing fruit the Syon gardener is a past master, as the specimens both under glass and in the open air prove to demonstration. The amount of forcing that is done would be regarded by many gardeners as prodigious. Everything is done at high pressure; there must be no break in the supplies, and, moreover, there is none. As an example of the magnitude of these forcing operations, the number of Strawberries (5000) may be quoted. The variety that is easily the first favourite is Royal Sovereign, of which 1000 plants are grown in pots. President, Auguste Nicaise, and Keen's Seedling are also highly appreciated. Looking along the shelves on which the pots of Strawberries are placed the luscious fruits may be seen hanging from every plant, and their numbers tell plainly and truly how excellent is the system of culture adopted. So good, indeed, are they, that no one need wish to see more healthy or better cropped specimens.

Popular as are the fruits that have just been mentioned the whole of the grower's skill and attention are not devoted to them. Not at all, for there are the Grapes, of which there are some dozens of Vines in pots or planted out, and almost all of them have been raised on the place. No Vines are tolerated here that do not produce good crops of fruit, for the demand is so great that every one must provide its share, or there

would be a break in the supply. Many Vines have been cleared of their crops, but there still remains a large number to cut from. Black Hamburgh, Muscat of Alexandria, Alicante, Buckland Sweetwater, Foster's Seedling, are amongst the most extensively cultivated, and all of them, despite the heavy crops that each has to carry every year, are in splendid condition. Clean, free from insects or fungoid pests, they look as though they would continue bearing for an unlimited time. Trained under the roof, up the back walls, and in pots, are Figs as one rarely sees them. Apparently the treatment and the surroundings are entirely congenial, that is if the heavy leafage, the healthy wood, and the numbers of fruits may in combination be taken as a criterion. Need it be said that Brown Turkey is the prime favourite, though St. John, White Ischia and Negro Largo are also represented in an equally good condition.

In addition to the fruits already particularised, there are Peaches and Nectarines in pots and on the trellises from which ripe fruits are constantly being gathered of the standard early varieties, the names of them being too well known to call for mention here. Beautiful are these trees with their straight young wood, and finely formed, good sized fruits. In another house Bananas find a home such as they evidently delight in, for they make rapid growth, and afford hundreds of fruits, as does the *Monstera deliciosa* mentioned as growing in the conservatory. Melons are a great feature at Syon, and admirably they are grown. Scores of fruits are seen hanging on the healthy plants, many of the varieties being seedlings of Mr. Wythes' own raising. The gardener and the fruit grower would find a visit and a look through these houses one of great interest, and replete with useful hints on the culture of the several kinds. The difficulties that have to be contended with might advantageously be noted, together with the means that are adopted to surmount them, and the lesson thoroughly learnt could not but be of value to everyone, no matter how varied may have been their experience with fruits under glass.

The culture of hardy fruits is carried out in a really admirable manner, all kinds being represented in first-class condition. The wall of magnificent cordon Pears, the fan-trained Peaches, Nectarines, Apricots, Plums, and Cherries, the handsome pyramid Apples and Pears, with the standards of several kinds, and the bush fruits and Strawberries, go to make up a grand collection. The varieties and the treatment to which the trees are subjected speak volumes for Mr. Wythes as a hardy fruit man. Bushels of fruits are taken, and some of the Pears from the cordons are of exceptional beauty. Mulching has been of enormous advantage during the drought, and the trees have not suffered in the least.

Master as is this gardener of fruit culture, he is no whit less so in all the branches of vegetable gardening, and the collections staged from Syon at the various Drill Hall meetings are as much appreciated by the visitors as almost anything else in the shows. In all 8 acres of ground are devoted to vegetables, of which there are of course large breadths of Potatoes. Kidney Beans and Peas may now be picked in abundance from a warm border, and of the former many hundreds of pots have been forced. Asparagus is very largely forced, as also is Seakale; while the crops of Tomatoes and Cucumbers are prodigious. All kinds of vegetables are grown, and as the demand is very heavy, of course large quarters of each one have to be formed.

Speaking of Cabbages bolting in many places this season, we made our way to a quarter on which there had been quite 2000 plants, and very few indeed had "run." The variety depended on for early purposes is Ellam's Early, and its general excellence thoroughly justifies the confidence that is placed in it. As a whole the vegetable garden is a model of cleanliness, neatness, and good order; and the system of cropping is so thorough as to preclude the possibility of any plot of ground being vacant for a very long time. As a matter of fact, the vegetables and the ground on which they are grown receive unremitting attention, or it would be impossible to secure such praiseworthy results.

Not very long ago the Syon House estate passed from His Grace the Duke of Northumberland to his eldest son, the Earl Percy, and it is particularly gratifying to all to find this gentleman take such a keen interest in it. Indeed, this interest does not cease with the estate, but extends to the employes thereon, as is shown by the fact that a reading room for the men in the gardens has just been inaugurated, and it cannot fail to be of great benefit to those who use it. The gardening and other periodicals are provided, with several good works on gardening, as also are ample chairs and tables for reading and writing, the room being adequately lighted and comfortably warmed. This is a decided boon to the men, and one which is doubtless highly appreciated.

Enough has now been said to allow the reader to form some slight conception of what this noble demesne is like, and of the many plants that are there grown. A few words relative to the freedom of the plants, both under glass and in the open ground, from insect visitations, and also of the order that prevails throughout must, however, be in justice recorded. In presenting a portrait of Mr. Wythes (fig. 89, page 540) we would thank both him and Mrs. Wythes for the kindness and hearty hospitality accorded on the occasion of the visit of which these notes are the outcome—a visit that was full of instruction, interest, and enjoyment.—H. J. WRIGHT.

HARDY CYTISUS.

THE common Broom (*C. scoparius*) is a well-known native plant, growing in the open parts of woods and on the hills and commons of this country. It, however, is not nearly so common as Furze, Gorse, or Whin, nor by any means as hardy; and whilst the latter will grow on strong soils, the common Broom is a sandy or gravelly soil-loving plant, and impatient of wet land or excessive moisture at the roots. Though thriving well on the sandy peats overlying gravel or rock, it is always in the shelter of hills or scrubby trees, never facing the moorland exposures like the Heather and Gorse; and even this gets browned by the keen wintry blasts, and Broom cut off by severe winters to the snow-line. In old stony hillside pastures it sometimes becomes more or less a weed, certainly not of any good to cattle; but sheep browse it closely, and even in winter may profit thereby. Hares and rabbits eat it off to the snow-line in hard winters, and where there is a number of these vermin (to farmers, foresters, and gardeners) it is a good plan to have patches of it in the woods, or where the situation is sufficiently open and the soil of a suitable nature.

As cover, the common Broom finds little favour with keepers, for it does not harbour rabbits to anything like the same extent as Gorse, nor is the herbage so good for the animals. Whins, however, will only grow in open places, but Broom does fairly well in semi-shade, and on that account is well worth introducing, as it readily may be by sowing the seed, about 20 lbs. being an ample seeding for a statute acre. For ornamenting embankments, or other places that grow little beyond rubbish and render the points eyesores, a scattering of Broom seeds, preferably by a rough preparation of the soil from rank weeds, will soon give growth of no mean value for keeping rabbits from trees in the winter time, especially during hard and long frosts. If this does not occur and the Broom attains flowering size, the wealth of golden blossom produced in the spring and early summer gladden the eyes as few other plants do, whilst the bees make merry amongst them.

The flexible twigs or branches make excellent thatch for outhouses, and not bad besoms, but not equal to the Birch. The flower buds, just before they become yellow, are pickled in the manner of capers, and the twigs yield a fibre capable of being manufactured into coarse cloth. They have also been used in tanning leather and mixed with Hops in brewing. Bradley calculated that an acre of Broom of full blossoming size was worth £6 a year for the feeding of bees, and withs and stumps sufficient to pay the rent. Mead and Cullen wax eloquent over the common Broom for the cure of dropsy, a decoction of the young twigs or green top being used; but it is, perhaps, as much a matter of faith as of medicine. Cows generally reject the tops, and the butter of those eating them is made bitter.

The common Broom is a deep rooting plant. It strikes straight down into the earth, and brings up mineral matter that is apt to get there and be of little use to agricultural or horticultural plants. The plant, therefore, yields when burnt a tolerably pure alkaline salt, hence it was sometimes had recourse to as a source of potash, but the amount varied in different soils, or rather the Broom from them, as shown by the following two analyses by Dr. Emil Wolff.

ANALYSES OF COMMON BROOM (*CYTISUS SCOPARIUS*, SYN. *SPARTIUM SCOPARIUM*).

Potash, KO	23.06	..	48.23
Soda, NaO	4.35	..	—
Lime, CaO	20.15	..	11.74
Magnesia, MgO	11.29	..	12.20
Iron, Fe ₂ O ₃	4.55	..	4.72
Phosphoric acid, PO ₅	3.46	..	13.24
Sulphuric acid, SO ₃	3.06	..	3.49
Silica, SiO ₂	17.25	..	1.28
Chlorine, Cl	2.90	..	2.26

—(*Aschen Analysen*)

The comparative analyses are valuable, as the nature of the soil is clearly indicated, that of the first being sandy and poor in potash and phosphoric acid, but there being plenty of lime that element has to some extent made up for the deficiency of potash, yet in a way conducive more to floriferousness and comparative dwarfness of plant. The second shows a soil rich in potash and in phosphoric acid, two of the most important food-elements of plants. Possibly the land producing the plant giving the ash of the second analysis was rather strong, and for the purpose of cultivating useful crops worth twice as much as the first.

Now there is the question of nitrogen, which we will assume to be destroyed in the plant, supposing this was burned on the land preparatory to its breaking up for purposes of cultivation. Is there more nitrogenous nodosities on the roots of the plants showing the poorest in analysis than on the stronger growing, or is there any difference? There will be double the amount of potash and nearly four times more phosphoric acid returned to the soil by the second plant ash as by the first; but there are four times more nitrogenous nodosities on the poor soil as on the rich, and vegetable mould will form much faster on the former than the latter, consequently it is the richer in nitrogen.

Further, if soil is wanted for potting purposes, especially for growing species of the order Leguminosæ, such as the Glory Pea (*Clianthus Dampieri*), which is the most suitable? or why is it that this finest of all the Leguminosæ cuts such a sorry figure in this country?

But to return to the species of *Cytisus*, there are several hardy, yet

all are not equally fine or desirable for gardens, as some are of doubtful hardiness, and others far from showy.

C. scoparius Andrieux, although only a variety of the common Broom and a wildling discovered recently in France, is one of the most striking and handsome of early summer flowering shrubs. Its charming appearance is due to the alae or wings of the flower having a rich golden brown blotch, which forms a beautiful contrast with the bright yellow of the other parts of the flower. The plant is as free growing and hardy as the common Broom, both of which prefer a calcareous, gravelly, or well-drained soil, and open, yet preferably sheltered situation. This, planted in masses, is one of the finest and most striking of shrubs. It commences to flower when in a young state, and may be grown successfully in pots.

C. albus, or White Broom, is not so hardy nor so showy as *C. s. Andrieux*, but its long racemes of small white flowers disposed on the slender graceful shoots have a fine effect. It also flowers freely in a young state, and by itself, in a mass, or associated with *C. s. Andrieux* and the common Broom, has a very attractive appearance. Massing brings the species out in their most striking features. *C. albus* is a native of Spain and Portugal. The trio attain to a height of 3 to 10 feet, but are best kept at from 3 to 6 feet by cutting out the old growths to some extent, or by thinning and encouraging young from the base.

C. capitatus, or headed flowered, is best seen as a low standard, its fine rich yellow flowers having a fine effect in the early summer. The head, even in good specimen, does not exceed that of a standard Rose. It requires a calcareous gravelly soil, otherwise it cannot be depended on for hardiness. Native of Italy.

C. purpureus produces purple flowers on short peduncles, and of procumbent growth, but twiggy. This is best grown as a standard, having a better effect, and when in flower is very beautiful. There is a white variety.

C. elongatus is another of the low forms that are seen at the best as a standard, the yellow flowers having a fine effect. It is a native of Hungary.

C. hirsutus has yellow flowers on very short peduncles, and forms a fine compact head as a standard. All the species or varieties named deserve a place in every garden, however small.—G.

BLACK STRIPE IN TOMATOES.

REFERRING to the reply given to "W. L. H." (page 527), "black stripe" is caused by the entrance into and growth of the mycelial hyphae of a fungus within a Tomato plant. The growth entering the Tomato plant is the pro-mycelium of the fungus named *Hypomyces solani*. This pro-mycelium or first growth from the resting spore or body named enters the plant by piercing the radicle (root stem) or lateral (fibry roots), and ascends (for its work is "upwards and onwards") the stem by the woody fibre, abstracting the contents of the cells and giving them a brown appearance, which is readily seen when the stem of a diseased plant is cut through. Plants so attacked become arrested in growth, and thus abide for some time, hence the term "sleepy disease." But this does not last long, for sometimes the mycelial hyphae encircles the woody tissue and cuts off the ascent of the sap, and the young growths droop and die.

In case the stem be not girdled the mycelial hyphae continues its development upward in the stem of the attacked plant, and ultimately a stripe or stripes of discolouration appear on the skin of the young fruit, usually at the eye, and sometimes on the stem of the plant. Such stripe or stripes become brown, and afterwards dark coloured or black. From this surface or destroyed tissue spring the outgrowths or erect hyphae of the fungus bearing the first or conidial reproductive bodies, the stage of the plant named by botanists *Diplocladium solani*.

The conidia or first spores are carried hither and thither by the least puff of air, and alighting on any dead vegetable matter, or even on soil largely suffused with vegetable matter in solution, the conditions being favourable for development, they germinate, and by growth of mycelial hyphae, which is built up of the dead organic matter, permeate the decaying plant or soil containing the vegetable substance, and from this springs the form of outgrowths constituting the plant named *Fusarium solani* (fig. 91, B, top left hand corner of the illustration). This, by the dissemination of its spores, gives rise to its like form on any Tomato plant that afford favourable conditions of soil (host) and environment (climate) for development.

Opinion is divided as to whether the *Fusarium* is saprophytic or parasitic, some contending that the plant or part was in a state of decay when attacked, and others as positively affirm that it assails living tissue, and the decay set up is a consequence of its growth. *Fusarium solani*, however, is an endophytic fungus, and if the germinal tube from one of its spores enters a Tomato plant, it may be by a wound or other cause of dead tissue, the mycelial hyphae is not content with the dead organic matter, but by the growth of the mycelial hyphae and consequent contact of the ferment it sets up

with the living tissues these are destroyed, and thus the *Fusarium* is decisively a parasite.

Albeit, the *Fusarium* outgrowths or reproductive bodies never spring from the living parts of the infested plant, being always confined to the dead or putrefying tissues, yet its hyphae and outgrowths are constructed solely and absolutely out of the organic substance of the infested plant, whether that part be living or dead—first, the mycelial hyphae on the living or freshly destroyed cell contents, and afterwards the aerial hyphae bearing the reproductive bodies.

Within the dead tissue of a plant infested by *Fusarium solani*, and even in soil containing sufficient dead organic matter to sustain *Diplocladium solani*, and the secondary form of this particular fungus—namely, *F. solani*, certain parts of the mycelial hyphae become swollen, and form roundish oval bodies (fig. 92, F, x, y), which are the final or resting stage of the fungus *Hypomyces solani*, and are practically frost-proof, water-proof, and drought-proof, therefore may abide in the soil indefinitely without impairment of vitality.

By these so-called resting spores this peculiar vegetable organism continues from season to season, and in no other way can Tomato plants become infested by "drooping," "sleepy," or "black stripe" disease, but by the soil or the seed, and that in consequence of the one or the other containing such spore (*Hypomyces solani*), and the pro-mycelium from it entering the

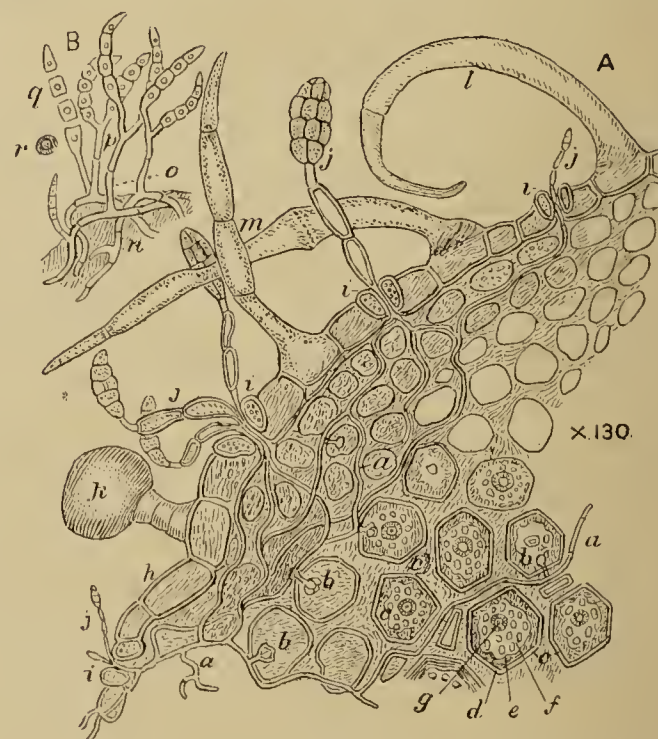


FIG. 91.—SECTIONS OF POTATO OR TOMATO TISSUE AFFECTED WITH FUNGI.

A, tissue affected with curl fungus (*Macrosporium commune* var. *solani*); a, mycelial hyphae; b, haustoria in invaded cells; c, perfect cells; d, cell wall (cellulose); e, protoplasm; f, starch grains; g, nucleus; h, epidermal cells; i, stoma; j, conidiophores of curl fungus; k, gland; l, simple hair; m, jointed hairs; n, mycelial hyphae; o, outgrowths; p, conidiophores; q, conidia; r, spore.

root-stem or roots of the developing Tomato plant. Thus "black stripe," an exceedingly vague term, has a very simple life history. 1, The fungus *Hypomyces solani* gives rise of itself (fig. 92, F, x, y), or by parasitism (x 2) to *Diplocladium solani* (D). 2, *Fusarium solani* (E) follows in infested tissue. 3, *Hypomyces solani* is the final, or resting stage (F, x, y). The *Diplocladium* conidia can only vegetate on moist decaying vegetation, or on soil containing putrefying organic matter, or such suffusing the stratum.

Fusarium may follow, and its conidia, or spores, give rise to Potato or Tomato rot, or this stage may be purely saprophytic, also that of the final, or *Hypomyces*. In presence, however, of a Potato or Tomato plant, the pro-mycelium of the *Hypomyces* may enter the root-stem or roots, and ascending the stem content itself by not mounting above ground level, as shown in fig. 92, C at s. This is a common occurrence both with the Potato and Tomato, and is an exact counterpart of what "W. K." describes on page 515.

For some reason or other the mycelial hyphae becomes arrested, but the plant being girdled it dies, unless soil is placed about the stem, so that roots may be emitted from the base of the living part, which is done by some growers, and the plants afterwards produce good crops of perfectly clean fruit or free from "black stripe."

Much "black stripe," however, is "sudden collapse" fungus

(*Macrosporium commune* var. *solani*), fig. 91, *A j*. This infestation is easily detected by the leaflets of the plant attacked turning inwards and upwards (fig. 92, *C*), which also is a characteristic of dry rot fungus (*Fusarium solani*), the leaves becoming brown and streaks of discolouration appearing on the fruit, especially the



FIG. 92.—FUNGUS IN POTATOES OR TOMATOES.

C, infested Potato top: *s*, stem girdled by fungus; *t*, transverse section of stem, half natural size; *u*, the same enlarged five diameters; *v*, vascular tissue; *w*, point of breaking forth of fungal outgrowths. *D*, *Diplocladium solani*, first stage of fungus from mycelial hyphae. *E*, *Fusarium solani*, second stage of fungus, which is somewhat ousing and often accompanied with bacteria. *F*, *Hypomyces solani*, final or resting stage of fungus; *x*, formation of resting spore; *y*, mature; *yl*, single growth from resting spore; *z*, resting spore pushing two growths; *z2*, ordinary pro-mycelium; *z3*, pro-mycelium producing *Diplocladium solani*. Recuperation of Potato plant from above attacked part; *a*, root; *b*, tubes from a shoot; *c*, tubercle-like shoot with growing leaf eye, both capable of resting and of reproducing or continuing the plant.

young, and at or near the eye. The plants so affected give way suddenly, the tops withering without, as the saying is, "cause or reason."

Some "black stripe," especially in plants of plethoric habit, is simply Potato disease fungus (*Phytophthora infestans*), and it also is a frequent cause of "drooping disease" and "sudden collapse." Attacked plants generally assume a temporary plethoric deep green growth, as if overfed or too liberally supplied with nitrogenic manure, but the leaves soon begin to curl, brown spots appearing on the leaflets, petioles, and stems, even on the footstalks of the fruit and on this itself, when it is all over with the plant.

Further, in the early stages of scab fungus (*Cladosporium fulvum*, *Cooke*) the appearance of affected parts closely resemble "black stripe" on the fruit, but the stripe or streaks soon form depressed blotches, through the cuticle of which the outgrowths may or may not break through and spread the malady. Scab fungus is somewhat prevalent this season, and there are a few cases of the worst of diseases that attack the Potato and Tomato, which also cause a "sudden collapse" of the plants, similar to that produced by *Macrosporium commune* var. *solani*. It, however, chiefly attacks the plant by the root stem or roots, and ascending by the stem acts similarly to *Fusarium solani*.

Unfortunately the fungus (*Sclerotinia sclerotiorum*, *Mass.*) does not confine its attacks to Solanaceæ, but has been found on Cabbage, Beet, &c., and always as a malignant organism, called at different times *Sclerotinia libertiana*, *Hymenoscypha sclerotiorum*, and *Peziza postuma*. Under the latter name it was found very disastrous to Potato crops in Ireland in 1880, and is figured and described by Mr. W. G. Smith, in "Diseases of Field and Garden Crops," page 15. No mention is therein made of a conidial condition, therefore it would be interesting to know if this has been ascertained, and what it infests. Massee is equally silent upon this point.

The "black stripe" and *Sclerotinia* collapse are certainly induced or fostered by decaying vegetable matter in the soil. This is not a bad thing in itself, but it becomes so when in excess of the

inorganic elements, especially lime. A good dressing, therefore, of quicklime is sufficient to prevent "black stripe," as caused by *Fusarium solani*, from attacking Tomato plants, and is useful against other fungi by fortifying the hosts with that element. If this be done annually as a preventive measure there is little to dread from "black stripe" through the soil. In bad cases it may be necessary to have recourse to gas lime, but this is not nearly so good for the soil and plants as quicklime, nor does it act on vegetable matter to anything like the same extent as a reducer of organic matter into the nutrient elements essential for the health of plants.

In addition to the lime dusting with Bordeaux mixture in powder is a necessity if freedom from Tomato diseases is expected. The dusting should commence early, continuing it at intervals from the plants being a foot in height, so as to give the growths as made a protective coating up to the time the last formed fruits are a quarter to half grown. The powder should contain 10 per cent. sulphate of copper, and the finest possible coating is sufficient to destroy any fungus spore alighting upon it and pushing a germinal tube. The advertised fungicides, such as Fostite, answer admirably, and are better for use under glass than liquid applications. Even a 5 per cent. sulphate of copper powder answers for the semi-superficial scab fungus, dusting the whole plant and rubbing a little of the powder on the scabbed parts of fruit with the finger. This will often save otherwise doomed fruit, and beyond a slight mark or marks not prejudice the fruit for using purposes, only take care to first dip them in a cider vinegar solution, afterwards rinsing well in clear water and drying in a current of air.

As illustrating the growth of the mycelial hypha in the Tomato stem of the "black stripe" fungus and the general appearance of an affected stem, as shown in section, the engraving, fig. 93, will be useful to growers for purposes of identification.

From the foregoing it will be seen that "black stripe" proceeds from the soil and ascends by the woody fibres of the stem to the fruit; there it forms resting spores in the integument of the seeds, and by the transportation of these may be transmitted to the ends of the earth. The important points are therefore to prevent infection, and if infection occur burn the whole plant, never saving seeds from diseased plants — G. ABBEY.

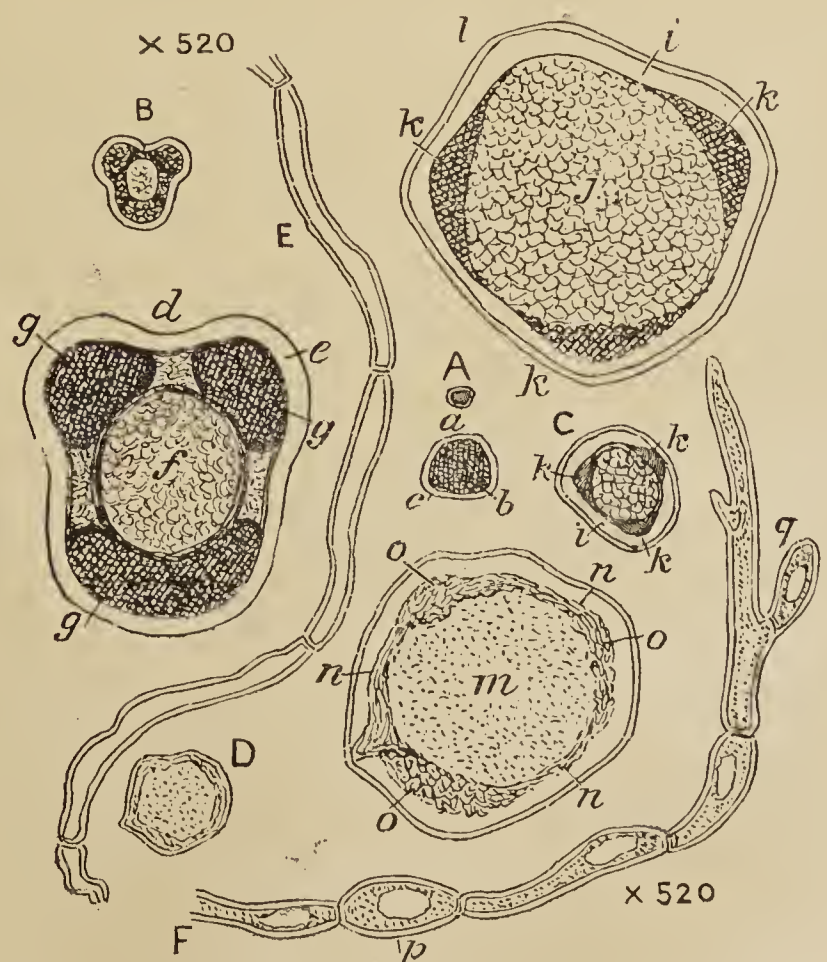


FIG. 93.—SECTIONS OF DISEASED TOMATO STEM.

A, small root; *a*, enlarged three diameters; *b*, central part brown and destroyed; *c*, cortical cells, tinged with brown. *B*, section of stem just above ground, natural size; *d*, enlarged three diameters; *e*, healthy cortical tissue; *f*, normal (white) pith cells; *g*, woody fibres diseased (brown). *C*, section of stem 9 inches above the soil; *i*, clear cortical layer; *j*, healthy pith; *k*, woody fibre stained pale brown; *l*, section enlarged three diameters; references as for *C*. *D*, section at 18 inches from the soil (natural size) enlarged three diameters (right hand):—*m*, pith cells, quite white; *n*, woody fibres, clear; *o*, vascular bundles unstained, and epidermis perfectly healthy. *E*, mycelial hypha from a longitudinal section of a root, and representing the older ascending hypha. *F*, prestrate and growing hypha; *p*, cell of hypha in process of forming a resting spore (*Hypomyces solani*); *q*, special cell ultimately forming a resting spore.

THE FLORISTS' TULIP.

[By JAS. W. BENTLEY, Honorary Secretary of the Royal National Tulip Society.]

DESCRIPTIVE CATALOGUE. (Continued from page 264.)

LLOYD'S SEEDLINGS.—Raised by the late Mr. Alfred Lloyd of Sheet, near Petersfield, principally from Mr. Henry Goldham's varieties. It was only after the death of Mr. Lloyd in 1893 that Tulip growers were made aware of the efforts he had been making for many long years to improve his favourite flower. At the death of his daughter, Miss Sarah Lloyd, the best of the breeders came into the possession of Dr. Hogg, Mr. C. W. Needham, and myself. As they were neither named or numbered, numbers were given to them in order to distinguish them. The hizarres, which are mostly raised from Star of India \times Defiance, are the most promising, but there are also good flowers of the other two classes. Up to the present few good breaks have occurred amongst them, but as the breeders are of great merit I mention the numbers of those best known to me.

Bizarres.—27A, 47, 103, 113, 119, 127, 141, 155, 157, 208, 210, 217, 219, 221, 233, 237.

Roses.—19, 99, 105, 129, 133, 207, 209.

Byblœmens.—137, 161, 69A.

LORD BYRON (Ashmole).—Bizarre. Shape good; base pure. A brown feathered variety raised by Mr. Luke Ashmole of Middleton, broken and named by Mr. W. Lea of Bedford Leigh. It is rarely seen nowadays, as it is of no value when flamed, and feathered examples are very scarce.

LORD DELAMERE (Hardy).—Bizarre. Shape long; base pure. A second-rate variety, generally seen in breeder state, when it is a yellowish brown in colour. As a flamed flower it is sometimes correctly marked, but its shape and dullness of colour cause it to be little valued.

LORD DENMAN (Abhott).—Byblœmen. Shape fair; base greasy. A correctly marked flamed variety, and often in the front rank at exhibitions. Its shape, although beautifully rounded at the tops of the petals, is "tundishy," and the marking, although correct, is too rosy. As a bed flower it is not a success, the stem being too weak to keep the bloom upright. It is sometimes seen in feathered state, when it gets called Lady Denman. It appeared about forty-five years ago, and is still grown.

LORD DERBY (Clegg).—Rose. Shape good; base not quite pure. A beautiful scarlet breeder with a fine shape. An old variety not often seen now, owing to a bad habit the bulbs have of splitting up into small pieces. It is worthless when broken.

LORD DERBY (Walker).—Rose. Shape fair; base pure, but filaments generally yellowish. It is rosy scarlet in colour, worthless when broken, and decidedly inferior to Clegg's Lord Derby.

LORD FREDERICK CAVENDISH (G. Hardwick).—Bizarre. Shape fair; base pure. Only of value in feathered state, when the marking colour is red brown on a good yellow ground. The petals are rather thin and the flower is inconstant, but when at its best is one of the best of red feathered hizarres.

LORD HILL (Sherwood).—Rose. Shape bad; base impure; petals pointed. An obsolete flamed rose; marking colour scarlet. Syn., Josephine.

LORD LILFORD (Crompton).—Bizarre. Tall; shape good but longish; base rather greasy. A correctly marked feathered variety, the feathering being bright brown on a good yellow ground. The filaments are often stained. In the flamed state it is useless, being very impure. Introduced over fifty years ago, and still grown.

LORD PROVOST (Walker).—Bizarre. Shape fair; base pure; petals flimsy. As a breeder it is pale orange-red; when broken it is flamed with dull red on a weak yellow ground.

LORD SIDNEY (Haynes).—Bizarre. Shape longish; base pure. A correctly marked flamed bizarre, with a ground colour of lemon-yellow. The marking colour is rather weak and dull in colour, preventing the variety being classed as first-rate. A seedling from Polythemus. Lord Belper (Haynes) is a very similar variety.

LORD STANLEY (Storer).—Bizarre. Tall; shape very good; base pure; flower small. A constant correctly marked feathered, and also flamed variety. The marking colour is rich brown on good yellow ground. Had this variety been larger in size it would have been one of the finest for exhibition purposes, in both feathered and flamed states.

LORENZO (Gibbons).—Byblœmen. Dwarf; shape very long; base pure. A flamed variety, well marked with bright purple in the style of Adonis. It is much too long for modern ideas, and has no exhibition value.

LOUIS W. MORRIS (Morris).—Bizarre. Shape good; base pure. A good feathered variety, much like Lord Stanley. Raised from Sir Joseph Paxton \times Surpass Catafalque, by Mr. John Morris.

LOUIS XVI. (Dutch).—Byblœmen. Tall; shape good; base impure. As a dark feathered variety Louis XVI. was, 100 years ago, in great request. About 1827 Mr. John Goldham was offered £100 for it in this state. It is of no value now, and but little grown.

LUKE ASHMOLE (Ashmole).—Bizarre. Shape good; base pure. A fine red feathered variety, broken from one of Ashmole's seedling breeders, and named by Mr. C. W. Needham of Royton.

LUSTRE DE BEAUTÉ (Dutch).—Bizarre. Shape long; base fair. An obsolete dark flamed bizarre, much esteemed sixty years ago.

MABEL (Martin).—Rose. Shape longish; base pure. One of the most valuable rose Tulips in cultivation, although it is narrow at the base and the petals are "hooked" in at the top. As a breeder it is good, being a soft rose in colour; as a feathered flower excellent, and as

a flamed variety one of the very best, being correctly marked with bright rose on a clear white ground. A good grower, it is cheap and abundant. Syns., Mrs. Lomax, Charmer, Pretty Jane, Mary Barber.

MADAME ST. ARNAUD (Martin).—Rose. Shape longish; base pure. A sister seedling of Annie McGregor, which it much resembles. It is, however, longer, wider at the base, not so good a marker, and rather deeper in the colour of its marking. It is a good exhibition breeder shown young, and occasionally valuable as a feathered and as a flamed flower, but not very constant. Introduced about forty years ago, and still grown.

MADAME VESTRIS (Lawrence).—Rose. Shape good; base pure. An obsolete feathered and flamed rose, dull in colour and ages to a byblœmen. A formerly famous southern flower. Syns., Clark's Clio, Rutley's Princess Sophia of Gloucester.

MAGNIFICENT (Hayward).—Rose. Tall; shape long; base impure. An obsolete, poorly marked flamed variety, marking colour pale dull rose; base very yellow. Nothing good about it but the name, which was given in order to sell it, and its purchasers.

MAGNUM BONUM (—).—Bizarre. Shape longish; base pure. An old-time plated feathered bizarre, the marking colour being rich red brown on a good yellow ground. It is still grown, and occasionally useful as an exhibition flower. Of no value when flamed. Syn., Sir Sidney Smith.

MAID OF FALAISE (Dixon).—Rose. Shape longish; base pure. A nicely marked flamed variety, its chief drawback being its colour, which is too dark for a rose and too rosy for a byblœmen.

MAID OF HARWOOD (Martin).—Rose. Shape good; base yellow on opening, and requires much bleaching. Very good as a feathered, and also flamed flower, resembling Mahel in colour.

MAID OF ORLEANS (Gibbons).—Byblœmen. Tall; shape long; base pure. A famous feathered flower forty years ago, the feathering being glossy black, beautifully pencilled, on a fine white ground. This variety, first broken in 1840, the most famous of the renowned Chellaston seedlings for many years, had the well deserved reputation of being the finest feathered byblœmen, but now is seen only in the flamed state, and is of little value. It was generally called Princess Royal when flamed, although that name properly belonged to a distinct but similar variety.

MAID OF THE MILL (Hepworth).—Byblœmen. Shape good; base pure. A fine light coloured breeder, which occasionally breaks into a good flamed flower. It is, however, inconstant when broken. Syn., Hepworth's 244/64.

MAITRE PARTOUT (Dutch).—Byblœmen. An obsolete feathered variety of long and bad shape, introduced about 1782; for more than sixty years highly esteemed in the North under the name of "Toot."

MAJESTIC (Gill).—Byblœmen. Dwarf; shape longish; base yellow. A heavily feathered variety which would be valuable were it possible to bleach it.

MALAKOFF (Martin).—Byblœmen. Shape good; base yellow on opening, and needs much bleaching. A well-marked flamed variety with a bold branching beam of pure bright purple. Not much grown, but worthy of a place in any collection, especially those grown in favoured places where the sun really shines.

MARTIN'S SEEDLINGS.—There are several of these still unnamed. Nos. 2 and 12 are roses; both are good breeders, rather pale in colour, and No. 2 makes a good flamed flower. Nos. 101 and 117 are byblœmens; the former has much the same shape as Lord Denman, but is pure, and can make a good feathered flower. No. 117 is best as a breeder, pale lilac in colour, and rather long; it breaks feathered, and is sometimes useful as an exhibition flower in that state.

MARTHA (H. Goldham).—Rose. Shape good; base pure. A correctly marked flamed rose, the marking colour being dull red on a pure white ground. One of the best of Henry Goldham's roses, but being a poor grower is scarce.

MARY (Crook).—Rose. Shape good; base pure. A fine feathered variety with fine broad petals, lightly feathered with bright rose. I fear this fine variety is completely lost.

MARY JACKSON (Knowles).—Rose. Shape good; base pure. A feathered and also flamed variety of much merit. The shape is the best of any rose Tulip in cultivation. The marking colour is rather dull in shade, and not at all constant. Raised by Mr. James Knowles of Staleybridge.

MARY LAMB (Zuill).—Rose. Shape long; base yellow on opening, and needs bleaching. An obsolete feathered variety, much esteemed forty years ago. It was the best feathered flower at the National show in 1855.

MASTERPIECE (Slater).—Bizarre. Shape rather long and petals pointed; base pure. As a feathered flower it well deserves its name, being richly pencilled with black on a golden orange ground. It is, however, inconstant in this state. As a flamed flower it is richly and correctly marked, but has scarcely any base; as a breeder it is dull yellow brown in colour. A seedling from Surpass Catafalque. It was first broken in 1847, and is still in the front rank of feathered bizarres. It is cheap and plentiful, and indispensable to the exhibitor.

MATILDA (Mason).—Rose. Shape long; base pure. A flamed variety, which resembles Triomphe Royale so much that it would be undistinguishable except for a trace of blue at the base of the beam. It is now of no importance.

MERIT (Gibbons).—Bizarre. Shape fair; base pure. A flamed reddish bizarre much like Pilot, but rather darker than that once famous variety, and the beam is the same colour as the feathering. First broken in 1840, and still to be found in some collections, although it is now of little importance.

MESSMATE (Lea).—Bizarre. Shape good; base pure. A flamed variety, which, although it marks well sometimes, is of no particular value, as it lacks size and distinctness.

MIDDLETON MAID (Ashmole).—Byblœmen. Shape fair; base pure. An inferior rosy feathered byblœmen of no merit.

MINERVA (——).—Rose. Shape long; base pure. A second-rate feathered and also flamed variety, much resembling Aglaia.

MIN D'OR (——).—Self. An obsolete yellow self.

MISS BURDETT COUTTS (Hepworth).—Rose. Shape good; base pure. Only valuable in breeder state, being soft rose in colour with a fine white base. One of the best rose breeders in cultivation. Syns., Lady B. Coutts, Baroness B. Coutts.

MISS COLLIN (Hepworth).—Rose. Tall; shape fair; base pure. A second-rate rose breeder, something like Mabel, but duller in colour.

EARLY STRAWBERRIES.

I GATHERED ripe fruit from Royal Sovereign on 29th May, from runners planted on the 29th of last October. The fruit, for such young plants, is very fine. The position is rather sheltered, and the soil ordinary dark loam.—J. UDALE, *Droitwich*.

"MR. ROBERT STEVENSON of Allerburn Gardens and the Shambles pulled his first ripe Strawberries this season on Thursday morning last. They were of the famous variety John Ruskin, which is the earliest of the earlies. This is quite a record in Strawberry culture. The earliest date in recent years, previous to this, was in the Jubilee year, 1887, when Mr. Stevenson pulled some fruit on June 9th. This year beats 1887 by nearly a fortnight. Within the next week or fortnight Mr. Stevenson will be in full swing in the Strawberry harvest, which promises to be a large one." This is taken from the "*Alnwick Guardian*," the Thursday mentioned being May 28th, one day earlier than Messrs. Cannell's date and 300 miles further north.—NORTH NORTHUMBRIAN.

I CAN give an instance of Mr. Cannell's record being beaten. The spring of 1893 was hot and dry, and I gathered a ripe Strawberry outdoors on May 9th, and was gathering good dishes from May 13th. This year the first dish (not a solitary fruit or two) was gathered on May 30th. The variety in each instance was Noble, and the fruits were of good flavour.—C. HERRIN, *Dropmore*.

THE 29th of May is certainly early to pick ripe Strawberries from outside, but it is by no means the earliest date on record, as Mr. H. Cannell thinks. I remember when at Roche Court, in Wiltshire, in the hot dry spring of 1893, I gathered my first dish on the 8th of May from a warm early border, the plants having been well watered but not protected in any way. This was mentioned in the *Journal of Horticulture*, May 11th, 1893, and the next season we picked fruit from the same border on the 1st of June.—H. RICHARDS, *Coldham Hall, Bury St Edmunds*.

I GATHERED a dish of ripe fruit on the 31st of May, the variety being John Ruskin. The plants have had no protection whatever.—H. A. JOY, *The Gardens, The Heath, Cardiff*.

IN the last issue of the *Journal* you invite correspondents to give their experiences of the earliest Strawberries. I have the three following:—Royal Sovereign, Scarlet Queen, and Noble, growing on a south border here. My first fruits ripened on June 6th on all three sorts simultaneously. This is the earliest period I have had them ripe outdoors in Yorkshire without protection. The plants were layered in small pots last summer and planted out as soon as ready and all on the same day.—J. E., *Nostell Priory Gardens*.

I PICKED a few fruits of Laxton's No. 1 grown entirely in the open border on May the 21st, eight days in advance of Mr. Cannell, and that in a Berkshire garden, which is not so favourable as to climate as is Swanley. I have been picking nearly every day since (now the 5th June), and the variety will be over before many of the so-called early ones are fit for use. This is an extraordinary early sort, and is succeeded by John Ruskin and Noble, both coming in about eight days later, King of the Earlies coming in a few days later still. This latter variety is a poor miserable little thing, and not worth growing.

Laxton's No. 1 is of moderate size, a good cropper, and not bad flavour, and I would advise every gardener who has a small warm corner in his garden to grow it.

Since the 29th May we have been picking glorious fruits of Noble four times a week, from 12 to 15 lbs. at a picking, of fine fruit and a large crop. Of all the boons in early fruit conferred on gardeners and the public in recent years I know of none compared in value to the introduction of this early Strawberry. For the past three years I have had an early border of it from runners obtained as early as possible, and planted out the first or second week in August. From these plants I have not yet failed in obtaining abundant crops of splendid fruit the last week in May, as the plants are only left on the ground for two years, and the foliage not large. I plant thickly a foot apart, and 18 inches between the rows. It goes without saying that to obtain the best results the land must be well manured and cultivated throughout the year.

As to the splendid appearance and cropping qualities of this variety all are agreed, I believe, but not so as regards its flavour and solidity of

flesh, enabling it to carry long distances without injury. I grant that its flavour is not equal to very many varieties we have, still in regard to this point it is most refreshing and sweet, and such as we cannot have in quantity at this early season from any other variety known to me; and as regards its travelling qualities, I can only say that during the past three years I have sent many hundreds of pounds by post and rail a distance of over 500 miles without having received a single complaint.

I am growing Sensation this year for the first time in the same way as Noble, and so far I like it much as a large early variety. It has been ripe with me since the 1st June, several of the fruits weighing 1½ oz.—O. T.

A WEEK IN LONDON.

(Concluded from page 521.)

COVENT GARDEN.

No place in all London is more interesting to a country gardener than this, as we who have fruit, flowers, and vegetables at our door often wonder how the populace of the great city is supplied with them. Strange though it seems, yet it is nevertheless true that nowhere in the world can better and cheaper vegetables be obtained than in London, and we have heard of persons when on a visit to the country expressing their satisfaction of returning to town, as they could always get good vegetables there.

At early dawn of the day in question one portion of London was asleep, and the other hard at work. In Fleet Street the newspaper vans were dashing to and fro, and nearer the famous market we passed waggonloads of Cabbages, Lettuces, Radishes, Onions, and such like, all fresh from the fields. Empty vehicles were also pouring in, ranging from the smart spring van of the West-end shopkeeper to the less pretentious barrow of the costermonger—all apparently struggling to get there first in order that they may be off with their loads; some this, some that. The wholesale market was in full swing; miniature mountains of vegetables were rapidly being transferred to vehicles of the character mentioned, and the country waggons looked tired and sleepy after their night on the roads. Costermongers were very much in evidence, and market porters rushed here and there, loading and unloading. Everybody appeared in earnest yet for the most part good tempered, and acquaintances exchanged morning greetings and ribald jokes in the broadest cockney twang.

The sales seemed to be carried on in a "take 'em or leave 'em" kind of way; the price is named, and the cash must be paid ere the goods are removed. The coster knows this; he buys cheaply, and has to sell cheaply, his profit being on the quick return, hence his hurry to obtain what he wants and then away amongst his customers. In the flower and plant market the scene was even more lively, and we wondered in astonishment where all the flowers came from. Bedding plants, annuals, Ferns, and decorative plants of all descriptions were being rapidly transferred from seller to purchasers at prices that seemed to us ridiculously low. Flowers from greenhouse, garden, and woodland, flowers foreign and flowers English, choice and hardy, all found customers in varying quantities. Fruit, too, was in evidence in the shape of Gooseberries, Cherries, Strawberries, Apples, Oranges, Figs, Melons, Grapes, and so forth from various parts of the world. To fully describe all that was offered for sale and the methods of disposal in space so limited would be futile, but the visit taught its lessons, and one most important, which if followed more closely by English growers less would be heard of agricultural depression—namely, that it is first-class produce that commands the best price in Covent Garden. We had often heard people complaining that it did not pay to send stuff to London, and that morning learnt the secret of it. The best produce went first at the highest price; then came another class of dealers to buy at a lower rate. But where did it all go, and where was it retailed? we asked. And the question was in a great measure answered when later on in the day we paused before long lines of coster's barrows

IN THE STREETS.

Gathered along the kerb stones of a street leading from one of the bridges, was a motley crew of men, women, and children with merchandise of all descriptions, including flowers, plants, fruit, and vegetables. These moving greengrocers, florists, and plant dealers pay neither rent nor rates, and can, therefore, afford to sell cheaply. One vendor, surrounded by fresh looking specimens of Ferns, Fuchsias, Pelargoniums, Petunias, and other flower and foliage plants, was holding forth in a strain something like the following:—"Now, genelman, I means to sell, so if yer'll buy quickly I'll sell cheaply; only don't think yer buying these plants out o' charity. Now, genelman, 'ere's a plant wot is called the Golden Fern, as perduces its gold nct on the top o' the fronds but underneath 'em, and each plant is warranted to produce 1 oz. o' gold in twelve months, so yer see its not only pretty but useful. Now then, how much? Eighteenpence, shilling, nirepence, sixpence. No less! Who'll have it? That lady o'er there. Thank you." Following this came Fuchsias and Pelargoniums, the salesman having some curious story to tell about every plant put up and in every case he was not slow to impress upon the purchaser that he was giving them away, and if he could buy another plant like it in the streets of London at the same price "he'd give 'im every bloomin' plant on his barrer." The noise of the various vendors was deafening, but the trade seemed well divided; and as the purchasers went homeward with their vegetables in nine cases out of ten they also carried a plant and a bunch of flowers, showing how great is the love for the beautiful in Nature, even in the crowded streets of London. The walk was interesting and no less instructive, giving us, as countrymen, some idea of how London

is fed. It is a common feeling amongst growers that the greatest share of the profits goes to the middleman. Whether such is the case I cannot say; but the costermonger is a middleman, and we fully agreed that whatever his share may be he fully earns it.

ON THE RIVER.

A peep at the ancient in the shape of the famous old Tower, and at the modern in the no less famous bridge of that name, preceded the embarkation on a steamer for a trip up the great silent highway—Father Thames. How varied were the aspects as we sped along. First the muddy waters, snorting steam tugs, grim looking barges, moving and stationary, loading and unloading, on by the Embankment buildings, and the gaily coloured bunting of the marquees in the Temple Gardens, on still by the stately Parliament Houses, till at length the water got clear and limpid, and the surroundings more congenial—to gardeners. The river is beyond dispute one of London's chief features, and one that no visitor should miss.

Slowly we steamed on past tastefully arranged gardens sloping down to the water's edge; pretty villas almost hidden in a hower of foliage, and walls bright with Clematises, Wistarias and Roses. Graceful Willows and golden Laburnums drooped over as if to kiss the stream, and here and there we confronted a blaze of crimson Hawthorn. How bright and pleasant in the morning sunshine looked the highly decorated house-boats with their miniature gardens, the little islands and riverside inns all gay with flowers, and a score other features, which made us undecided if this was in truth the Thames—the river so smiling, it seemed a thing impossible that its waters could have closed over and hidden so many dark deeds. At Chiswick we talked of the Royal Horticultural Society, its varied fortunes, and its present conditions (as hundreds of others have been doing lately). At Kew the subject changed to the Royal Gardens, worthy of a visit we knew, but time again said no. When passing Syon House Mr. Wythes' fine exhibit at the Temple became the subject of conversation, and on arriving at Richmond dinner was the one theme. This disposed of in true gardener's style, thoughts and steps again turned towards London, with the satisfaction that our day on the river was one of the most pleasant of the holiday.

THE GREAT WHEEL.

On the morrow we were going home and had not seen the great wheel, so partly through a natural desire to see it, and partly through a fear of being laughed at if we returned home without seeing it, we decided to spend our last evening at Earl's Court; could we have foreseen the future that evening would have been spent elsewhere. Everyone has, of course, read of that night of suspensions. Members of Parliament were suspended, voyagers through the air were suspended, and amongst them two gardeners; it is needless to add who they were. For a time we sailed well and enjoyed the sensation, then we stopped to learn later that the great wheel had "stuck." It was not the first time we had been stuck fast, as gardeners in these days often find themselves in awkward predicaments, but of all the incidents of sticking none equals that of being poised between heaven and earth on a wheel, as in such means of extrication are reduced to a minimum. So far as novelty was concerned the case was without precedent, for never before was a gardener so cobwebbed in the air. A fruit grower in the Far West, or an Orchid grower in Mexico, expects to meet with adventures, but here were two commonplace country gardeners on a commonplace visit to London cut off from friends and fatherland with nothing to prevent reunion but empty space. Gardeners have oftentimes been suspended from duty from various causes, but never in mid air. We thought of our Potatoes, Beans, Dahlias, and such like, on this frosty night up there, and wished for something to cover us, if it were only a mat. We thought of everything in fact, but chiefly home, and longed to be there. How we got down matters not, but never did a storm-tossed mariner exult more when he felt his feet touch old England; but after it was all over we felt rather heroic, and in a short time two portmanteaux were packed and two men stepped into the northern mail at St. Pancras en route for the old home and the old garden, and one of them here signs himself—A COUNTRY GARDENER.

HORTICULTURE AT THE BATH AND WEST SHOW, ST. ALBANS.

UNQUESTIONABLY the floral tent at the above show held last week was one of the chief attractions, this being crowded with visitors during the whole time the exhibition was open. The Society offered no prizes, but made substantial grants to each exhibitor, according to the quantity and quality of the exhibits, a plan which appeared to work admirably, judging by the large number of exhibitors both trade and private. The steward and manager of this department was Mr. W. Herbert Fowler of Taunton, well known to the horticultural world, more especially among lovers of Roses and Chrysanthemums. He took the keenest interest in the show, every little detail being carefully studied, and the arrangements were perfect.

The Prince and Princess of Wales, the Princesses, the Prime Minister, and a host of fashionable friends from Hatfield, visited the tent on Friday, the general public being excluded while the Royal party inspected the exhibits, in which they seemed deeply interested.

Immediately on entering the tent one was struck with a remarkably fine bank of Carnations, principally Malmaison, of which some hundreds of plants in splendid condition were arranged, backed up by large Palms. At the far end of the tent the whole space was occupied by

Lord Aldenham, Aldenham House, Elstree (Mr. E. Beckett, gardener), covering a space of about 540 square feet, the end being covered with virgin cork, and arranged with suitable plants, such as Bamboos, Palms, Ferns, Asparagus; the bottom being arranged with large towering Palms, Crotons, Dracenas, Orchids and choice flowering plants. This group was much admired, especially so by the Princess of Wales.

Messrs. Sander & Co. of St. Albans staged a large collection of Orchids and new and rare plants—a very fine exhibit. Messrs. Sutton and Sons, Reading, also sent a very fine display of Gloxinias and other flowering and foliage plants; also a large collection of Tomatoes well fruited in pots.

Large banks of pot Roses were exhibited in fine condition by Messrs. William Paul & Son, Waltham Cross; and Messrs. Paul & Son, Cheshunt, arranged on each side of the centre stage with quantities of cut flowers arranged in front. Sir Blundell Maple, Childwickbury, St. Albans (Mr. Nutting, gardener), occupied one end of the centre stage with a choice collection of foliage and flowering plants, some fine specimens of Azaleas being very noticeable.

F. A. Bevan, Esq., Trent Park, Barnet (gardener, Mr. W. H. Lees), filled the other end with a fine assortment, Orchids of splendid quality predominating. Mr. Gleeson, gardener to C. Keyser, Esq., Warren House, Stanmore, staged a fine bank of well-grown Gloxinias, large quantities of cut hardy flowers, and table decorations. Altogether it was a most interesting exhibition, and Mr. Fowler is to be congratulated on the great success attending it.



FRUIT FORCING.

Peaches and Nectarines.—*Earliest House.*—When all the fruit is gathered from individual trees, the wood on which it has been produced should be cut away to the shoot at its base, which is to afford the bearing wood for next season, except if the fruit has been produced on wood that is necessary to retain for the extension of the trees. All growths not absolutely necessary for bearing next season, or for the extension of the trees, must be cut away, as it is important the foliage be fully exposed to light and air, and it is also essential that it die naturally, not prematurely through attacks of red spider or lack of moisture at the roots. Employ the syringe or engine freely. Keep the inside borders properly moist by duly watering, not neglecting the outside ones if the weather be dry. Admit all the air possible, and when the buds are plump and the wood firm, the roof lights, where moveable, as they should be in all early forced houses, may be taken off.

Trees Ripening their Fruit.—Ventilate freely, admitting a little air constantly, and to insure the preservation of the foliage in health sprinkle the paths and borders with water in the morning and afternoon, not allowing the soil to become dry, but giving water as required. A mulching of short spent material is very useful in preventing the surface cracking, lessening evaporation, insuring uniform moisture, and preventing the roots going down in quest of liquid nourishment.

Syringing must cease directly the fruit commences to soften for ripening, or the moisture will cause the skin to crack, mould following and imparting an unpleasant musty flavour, as well as spoiling its appearance.

In gathering the fruit great care is necessary, as slight pressure is sufficient to spoil the appearance of the specimen. Gather fruit for packing before it is quite ripe. Some netting suspended beneath the trees is useful to prevent falling fruits being bruised, but let the netting be "pocketed" so as to prevent the fruits clashing against each other.

Trees with Fruit Taking the Last Swelling.—Give every attention to watering, feeding, and mulching. Any extra nourishment will not do any harm provided it is of a substantial nature, such as superphosphate and muriate of potash, with a moderate amount of nitrate of soda. About five parts superphosphate (mineral), three parts muriate of potash, and two parts nitrate of soda form a suitable mixture. The borders both inside and outside should be brought into a proper state of moisture by watering, then supply 4 ozs. of the mixture per square yard and wash in moderately.

Allow the shoots to extend, not pinching in the laterals too closely, but they must be prevented shading the fruit, which ought to be raised with its apex to the fullest light. This can be effected by placing laths across the trellis, securing them to the wires. Continue forcible syringings morning and afternoon until the fruit begins ripening, then cease, but do not allow the border and other surfaces to become parchingly dry, as moderate moisture, provided the ventilation is liberal, will not injure the fruit, and it is absolutely necessary for the benefit of the foliage.

Trees Stoning the Fruit.—The trees started in February or even in March have the fruit of good size and the stoning process in various stages of advancement. To continue this in steady progress and insure its stoning satisfactorily there must be no deficiency of moisture at the roots; the foliage must be kept clean by daily syringings, and, if necessary, by the prompt application of an insecticide. Continue the

temperature at 60° to 65° artificially, and a free circulation of air allowed between 70° and 75°, having it full when the latter is reached, and close at 75° with plenty of atmospheric moisture. If the temperature rise to 80° or 85° or even 90° it will not do any harm, but admit a little air in the evening so as to allow the pent-up moisture to escape and the temperature to gradually cool through the night. Increase the ventilation with the advancing heat from 65°, not pinching for air in the early part of the day.

Late Houses.—If it is desired to retard the fruit in any of these, so as to prolong the season of supply, it is best effected by freer ventilation during the day, and continuing it at night when mild. Indeed, there is only need to ventilate day and night to keep back the crop, so as to ripen about the same time, as that usually occurs with trees against walls, and by judicious ventilation the fruit may be had over a more lengthened period.

It is necessary not to overburden the trees with more fruit in the early stages of growth than can remain for the crop, and a moderate crop of large, highly coloured fruit is always better than a heavy crop of small fruit; therefore thin well, leaving a few more than will be required ultimately. Keep the trees well syringed, and mulch lightly, thereby encouraging the roots to the moist surface, giving thorough applications of water when necessary, and if the trees are weak or heavily burdened with fruit afford liquid manure or top-dressings of artificially compounded fertilisers washed in.

Figs.—*Early Forced Trees.*—Generous treatment is needed after the first crops are gathered to enable the trees to swell the second crop, which should be thinned before the fruit is the size of Walnuts, and in thinning reserve the largest fruits at the base of the shoots. Syringe twice a day to keep red spider in check, and afford liquid manure when watering is necessary. Trees in pots require it daily, sometimes twice a day, and those in borders once or twice a week, according to the extent of the rooting area. Mulch trees in pots with rich material, also those in borders, lumpy loam and manure answering admirably, especially when sprinkled occasionally with a mixture of three parts bone superphosphate, two parts powdered nitrate of potash, and one part ground gypsum mixed, about 3 ozs. per square yard being supplied every fortnight or three weeks.

Succession Houses—When the fruit commences ripening a free circulation of warm dry air should be afforded, which is essential to high quality, not less so being the tying-in and regulating of the shoots by thinning and stopping, so as to afford the fruit the benefit of all the light and air possible. The moisture in the atmosphere will need to be moderated, not wetting the fruit, though if red spider prove troublesome the fruit should be gathered closely and a good syringing given, which will not injure the remaining fruit, provided it is done early on a fine day, so that the moisture does not remain long on the fruit. Do not allow any lack of water at the roots, yet give less supplies than when the fruits are swelling.

Young Trees in Pots for Next Year's Early Forcing.—The trees must have all the light possible, and be kept as near the glass as practicable—that is, as high as may be without touching, so as to secure sturdy growth, well-ripened wood, kept perfectly clean by syringing, and well stored with nutrient matter by judicious applications of liquid manure or top-dressing of fertilisers, especially those of a phosphatic nature.

Stopping must not be longer practised, for it is from the well-matured points of the current year's shoots that next year's first crop fruits are borne, and this first crop is of greatest consequence in very early forced Fig trees. If there be any neglect in the preparation of the trees disappointment is inevitable. The growth being completed they may be stood outdoors to induce rest, but the wood must be well ripened previously, and to be of use for early forcing it must be matured early.

THE KITCHEN GARDEN.

Carrots—Where these have come up irregularly, open drills between the patches, water if at all dry, and sow more seeds, preferably of one of the larger Horn varieties. Now is a good time to sow more Carrot seed with a view to having abundance of tender young roots in the autumn. Nantes Horn is one of the best varieties for the purpose, but the Intermediate forms may also be sown. Thin advancing crops lightly before the plants are large, as in a small state they draw easily, whether the ground is moist or dry. Horn varieties may eventually be left 4 inches apart, and the larger varieties from 6 to 8 inches. Stir between the rows frequently with the Dutch hoe, this keeping down weeds and preventing a rapid loss of moisture and cracking.

Cabbage.—Coleworts or small quick-hearting Cabbages are usually fully appreciated after the summer vegetables are over. Sow seeds now, moistening the ground with liquid manure prior to sowing, favouring an early strong growth of plant. The Rosette is one of the best varieties for present sowing, but any of the small varieties are also suitable, planting them out 12 inches apart each way.

Celery.—The long spell of hot dry weather has greatly delayed gardening operations, and the Celery in many instances has been weakened by being kept too long in boxes and frames. When they touch each other planting ought to take place, not waiting for rain. The trenches should be well prepared in advance, especially if the ground is of a heavy binding nature, and then if the lumps and soil generally are liberally watered overnight they will crumble down finely the following morning, planting out taking place in the afternoon; also well soak the soil about the roots of the plants prior to moving. Remove all suckers and quite small leaves, and replant firmly. Give a good watering the same evening, and if the next day promises to be hot and

bright shade lightly by laying tree branches or even Pea stakes over them. During hot weather sprinkle every evening, and afford a fairly heavy watering as often as the soil about the roots approaches dryness. Later plants to be pricked out on shallow beds of manure made firm with a surfacing of fine soil added, and if these are disposed on a hard bottom the plants will move well.

Celeriac.—It is only the Turnip-like roots of Celeriac that are used, and these form the most satisfactorily when the plants are put out on the surface of freely manured firm ground, or they may be planted in succession to early Cauliflower. In this case manure would have been freely dug in for the Cauliflower, and enough will be left for the Celeriac. Hoe and clean the ground. Move the plants with a good ball of soil about the roots, and dispose them from 12 to 15 inches asunder in rows 18 inches apart. Keep well supplied with water, and hoe among the plants occasionally.

Leeks.—Those wanted extra fine should be planted in trenches prepared as for Celery, and be as carefully moved. For ordinary purposes they can be grown with far less trouble on cool borders in succession to Savoys or Broccoli. Dress liberally with manure, and dig this in the depth of the spade. After the ground has been made moderately firm and level, or directly the plants are 10 inches, proceed with the planting.

Onions.—These ought to have been thinned out, but in many instances have been left till the rain made the operation easier. Four inches apart is enough space when the rows are 12 inches asunder. Transplanted Onions are at a great disadvantage this season. These ought to be hoed, watered, and then mulched with short manure, leaf soil, or ashes. Those who water their beds should loosen the surface and mulch, or otherwise the ground is liable to become chilled, and will bind and crack badly. Pinch out the flower heads of the autumn-sown Onions, and these will then form small yet serviceable bulbs.

Tomatoes.—The second week in June is early enough to plant these in the open. Give the plants as much solid manure as is usually thought necessary for Potatoes, and a light surfacing of lime will also act beneficially. Plant in sunny, sheltered plots or borders, 15 to 18 inches apart, in rows 3 feet asunder, and place a stake to each. Single plants may also be dotted among early Potatoes. Those against walls and sunny fences should have the benefit of some fresh soil and manure. These may be put out 15 inches apart, or be allowed double that space, and have a side growth laid in. All should be kept moist at the roots, and be early mulched with strawy manure.

THE BEE-KEEPER.

SEASONABLE NOTES.

EVERY day at this season will bring its work in an apiary where there are a number of stocks, and if attended to will in due course amply repay the bee-keeper for the labour bestowed on them. The whole secret of success in bee-keeping lies in doing the right thing at the right time, but from my experience of bee-keepers in various parts of the country, I am inclined to think they do not lay sufficient stress on this point. The work that ought to be done to-day is through various causes put off to a more convenient season; it may be for a day or two, or worse still for a week or more. I fear we all have a failing in this direction, but this putting off makes all the difference between success and failure in bee-keeping.

More particularly is this to be observed at this season than any other. It may be that numerous stocks require supering, in others more room in the brood chamber, or those that have already been supered may require an additional crate of sections or shallow frames where the latter are being used, a postponement of which may prove fatal to the prospect of obtaining a surplus from them. When bees become crowded in their hive, and sufficient room is not provided for them, they at once make preparations for swarming by starting queen cells, and when once they have the swarming mania it is very difficult to prevent them. The queen cells may be destroyed and ample room provided for them, but the first bright day off they will come again. Hence the complaint one so often hears of bees swarming incessantly, with the natural result, a poor honey harvest.

One may quite innocently, when one's bees are kept in the neighbourhood of some of the races of foreign bees, have a strain of bees that will prove inveterate swarmers. These are usually hybrids, and are generally good workers, but it is so annoying at the time one imagines all are in good working order to find first one stock and then another swarming. For this reason I have for several years past made a point of only keeping our native black or brown bees as true as it is now possible to obtain them, and, by working on the lines I advocate, find it is possible to keep a great number of colonies fully at work throughout the season without the appearance of a solitary swarm. Those who have been troubled

with incessant swarming and the attendant evil of fly-away swarms will fully appreciate the change. This, let it be understood, is the condition under which a great number of stocks of bees are being kept solely for the production of honey.

Some appliance makers and others interested in bee-keeping tell one that to be successful in the pastime in this country some variety of foreign bee should be kept, these being usually offered at treble the price of our ordinary bee. Another will recommend a hive of a certain shape and size, in which he has a monetary interest, and which is superior to all others, and will actually have the audacity to state that the honey obtained from it is of superior quality to that stored in other hives, although it may have been obtained from the same flowers in the locality. These and similar opinions should be guarded against by those who wish to obtain a maximum of profit from their bees, as such statements are open to the suspicion of having been made for trade purposes.

It is immaterial at this season of what shape or form a hive may be, if it is well made and has ample space provided for giving the necessary room when required. One individual may have the most elaborate and expensive hive, and fail in obtaining a surplus, whereas another may have a very commonplace article made from a starch box, and be rewarded with a good harvest of honey. Many instances similar to these have come under my notice.

The frame hive in some form or the other is the best adapted for the purpose, for the simple reason that with ordinary care and good management bees invariably do well in them, and the ease with which they are manipulated is also in their favour. All frames should be made the same size in an apiary, so that they are interchangeable one with the other, and for this purpose I have found the standard frame answer all the requirements. A hive may be made to hold as many frames as desired. Some bee-keepers fall into the error of asking for a standard hive, whereas it is the above that is required, there being no standard hive recognised in this country.

As it is the natural instinct of bees to store their honey over their brood nest in their natural state, it is advisable to provide them with the means of storing it in the same manner when kept under artificial conditions. It is therefore not advisable to have an extra large hive, as I have come to the conclusion they are not profitable. One holding ten or twelve standard frames will be large enough for all practical purposes in this country where the seasons are often so short, that whilst the bees are filling the body of a large hive with brood and stores the season will be over, as the bees will not work in supers until the body of the hive is crowded with bees. By working on these lines extra room can always be given on the top by placing a crate of empty sections under those that are nearly full, or shallow frames may be worked in a similar manner.

Swarming is a necessity with straw skeps, and, as a rule, the earlier the swarms are obtained the better, but if those who have hitherto not kept bees in the more modern moveable frame hive would make a start, as they can now be obtained very cheaply from some of our best makers, they would soon realise how much better they are, and a much superior sample of honey can be obtained from them. It is almost impossible to obtain a good sample of run honey from straw skeps owing to the difficulty of keeping the pollen from mixing with it.

If not already done, steps should at once be taken to rear sufficient queens for requeening all stocks that through old age or other causes may require a young fertile queen at their head. It is as well to bear in mind that a queen is at her best the second year, and the earlier they are hatched in June the better. I have proved this fact on several occasions. Queens that are hatched at the end of the season rarely do well, and will often die the following spring. If the parent hive is well stocked with bees, and the young queen is hatched during the present month, they invariably do well, and are hardier and more prolific than those reared later in the season. Queen-rearing must not be neglected in an apiary that is worked on the non-swarming system, or the old queens will probably collapse just at the time they are required the following spring, and instead of success failure will have to be chronicled.—AN ENGLISH BEE-KEEPER.

GARDENERS' CHARITABLE AND PROVIDENT INSTITUTIONS.

THE GARDENERS' ROYAL BENEVOLENT INSTITUTION.—*Secretary*, Mr. G. J. Ingram, 50, Parliament Street, London, W.C.

UNITED HORTICULTURAL BENEFIT AND PROVIDENT SOCIETY.—*Secretary*, Mr. W. Collins, 9, Martindale Road, Balham, London, S.W.

ROYAL GARDENERS' ORPHAN FUND.—*Secretary*, Mr. A. F. Barron, The Royal Gardeners' Orphan Fund, Chiswick, W.



* * All correspondence relating to editorial matters should be directed to "THE EDITOR." Letters addressed personally to Dr. Hogg or members of the staff often remain unopened unavoidably. We request that no one will write privately to any of our correspondents, as doing so subjects them to unjustifiable trouble and expense, and departmental writers are not expected to answer any letters they may receive on Gardening and Bee subjects, through the post.

Correspondents should not mix up on the same sheet questions relating to Gardening and those on Bee subjects, and should never send more than two or three questions at once. All articles intended for insertion should be written on one side of the paper only. We cannot, as a rule, reply to questions through the post, and we do not undertake to return rejected communications.

Chrysanthemums (Novice).—Pinch the varieties named about the 15th of the current month to induce them to get an earlier break and thus hasten on the formation of buds in August. If the plants are not vigorous they will not be certain to produce exhibition blooms of the first quality owing to such late propagation.

Naming Orchids (The Boy).—It is quite impossible for us to name species or varieties simply from a written description, though from what you say of yours they seem to be just the ordinary forms of the species you mention. An average form of *Odontoglossum madrense* would be about 3 inches across, and the spikes would carry from two to eight blooms, according to the strength of the plant.

Grapes Scalded (Constant Reader).—Your samples arriving on Wednesday we can only reply briefly. They are what is known as "scalded." This is brought about in many instances by a too low night temperature and too late morning ventilation, and this being afforded by opening the sashes too widely at once. Avoid those conditions and the evil may be arrested if not prevented, but the berries already affected are spoiled.

Viola Countess of Moray (J. M. Hattie).—The blooms arrived in excellent condition just as we were preparing for press. The variety is evidently floriferous, and displays its bold fragrant primrose blooms to the best advantage. We think it would be effective in masses. Why not send a large bunch to the Viola show? You will find the date and place in reply to another correspondent. Mr. A. J. Rowberry is the Honorary Secretary.

Training Melons (W.).—Train your plants on one stem, stopping them when they approach the ridge of the house. The laterals will appear from the axil of each leaf. Stop those that show fruit at the first joint beyond it, and pinch out unfruitful growths, or stop them at the first leaf; but beware of crowding the foliage. No manure is necessary for Melons when good loam is used. If therefore you can obtain the latter do not use any manure in the top-dressing, but apply good loam, with an admixture of broken charcoal or old mortar to keep it porous when pressed down firmly.

Pansies and Violas (W. S.).—The flowers arrived very much curled and withered through want of green packing material to keep them fresh. The dark Pansy appears smooth and well formed, the others we do not think equal in value to existing varieties. You might, however, send specimens, with the purple, to the Hon. Secretary of the National Viola Society, A. J. Rowberry, Esq., The Crescent, South Woodford, Essex, for his opinion thereon, or to the National Viola Society's show which is to be held on Saturday, June 20th, in the Royal Botanic Gardens, Regent's Park, N.W. Fresh cut soft grass is excellent for packing flowers in. They should be made firm enough in the box to prevent displacement in transit.

Anemones from Seed (H. J. B.).—We have raised thousands of Anemones by sowing the seed as soon as gathered in drills about 5 inches apart drawn across narrow beds or borders, subsequently thinning out some of the seedlings and leaving the others to flower. The seedlings if taken up in small tufts with earth adhering to their roots transplant very well in showery weather. They like rather strong but well-worked and friable soil, and if the position is shaded from the midday sun it will suit the plants admirably. Should the ground be dry at the time of sowing flood the drills repeatedly, and after sowing cover the seed half an inch deep or thereabouts with sifted soil, loam, leaf mould, and wood ashes being excellent, and spread mats on the beds for preventing the rapid evaporation of moisture, this being much better than often sprinkling the seed beds in hot weather. The drills should be deep enough that when the seed is covered the plants will come up in slight depressions; in that way water can be more effectively applied as it may be needed. We have also sown in April, some of the plants flowering in the autumn and very freely the following spring. If sown as soon as the seed is gathered flowering commences the following year. The fresher the seed is the better it grows.

The Gardeners' Royal Benevolent Institution (Subscriber).—We hope you are a subscriber to the charity as well as to the *Journal of Horticulture*. The report, of which you send a cutting from another gardening paper, was no doubt taken from our columns. It was not a verbatim report, and it would be something akin to a miracle if two reporters in giving a free rendering used exactly the same words. We do not suppose the proprietor of the paper was aware of the source of what was furnished to his editor.

Plant for Keeping a Cemented Pond Free from Green (Somerset).—We regret to say that we do not know a plant which will keep the water free from the very troublesome green Conferva, for unfortunately all the fungi parasitic on Algæ are symbiosisic, and live together in perfect harmony, if not to mutual advantage, as in the lichens. We have not found anything of any use but waterfowl, such as ducks, as no chemical substances, except sulphates of iron and lime, can be added to the pond without impairing its value for watering purposes, and in some cases this addition may not be suitable for some plants. About 1 lb. sulphate of iron to 500 gallons of water is a suitable quantity, and a similar quantity of sulphate of lime. But ducks or frequent cleaning are the more safe.

Grapes Diseased (A. McC.).—The berries are spotted almost all over by minute brown specks, which appear very similar to anthracnose (*Spaceloma ampelinum*), but the small round spots are very little depressed in the centre, and have not a raised dark border. Probably, therefore, the specks are due to the haustoria (sucker) of the mildew present on the surface, the threads (mycelium) to which they belonged having been destroyed by the fumes of the sulphur or its direct application. The fungus (*Uncinula ampelopsidis*) is in the conidial condition, when it is known as powdery mildew (*Oidium Tuckeri*), which may assume two forms—one with somewhat short, roundish oval spores (conidia), this being *O. Tuckeri*, and other much longer oval, yet rounded, conidia, and not barrel-shaped, as in *O. balsami*. This is the form in your case, and the more malignant of the two, it frequently resisting dustings of flowers of sulphur successfully, but never escaping destruction by its fumes. To successfully combat this parasite we have found dusting with the powder fungicides, containing 10 per cent. of sulphate of copper, most effective. Indeed, we know a case where sulphur failed to do more than check the mildew, but the use of the powder containing sulphate of copper effected a complete clearance, and the Grapes proved thoroughly satisfactory. The fungicide was applied with a bellows apparatus, and the finest possible dusting given all over the Vines, including the bunches. We fear, however, that the Grapes in your case will be rusted, yet even these are better than not any. If the fungus develops further we should be pleased to receive specimen, for anthracnose is not by any means new to this country, but it does not develop to anything like the same extent as in the United States.

Names of Plants.—We only undertake to name species of plants, not varieties that have originated from seeds and termed florists' flowers. Flowering specimens are necessary of flowering plants, and Fern fronds should bear spores. Specimens should arrive in a fresh state in firm boxes. Slightly damp moss, soft green grass, or leaves form the best packing, dry wool the worst. Not more than six specimens can be named at once, and the numbers should be visible without untying the ligatures, it being often difficult to separate them when the paper is damp. (*Inquirer*).—1, *Tiarella cordifolia* (Foam Flower); 2, *Amelanchier botryapium* (The Snowy Mespilus).

COVENT GARDEN MARKET.—JUNE 10TH.

OUTDOOR Strawberries now arriving in better condition and supply owing to the late rain. House fruit unaltered. Trade steady.

FRUIT.

	s. d.	s. d.		s. d.	s. d.
Apples, per bushel ..	2	0 to 4	Lemons, case ..	11	0 to 14
„ Tasmanians, per			Peaches ..	6	0 to 15
„ oase ..	10	0 to 12	St. Michael Pines, each	2	0 to 6
Grapes, per lb. ..	1	0 to 3	Strawberries, per lb.	0	6 to 2

VEGETABLES.

	s. d.	s. d.		s. d.	s. d.
Asparagus, per 100 ..	2	0 to 3	Mustard and Cress, punnet	0	2 to 6
Beans, per lb. ..	0	9 to 1	Onions, bushel ..	3	6 to 4
Beet, Red, dozen ..	1	0 to 0	Parsley, dozen bunches	2	0 to 3
Carrots, bunch ..	0	3 to 0	Parsnips, dozen ..	1	0 to 0
Cauliflowers, dozen ..	2	0 to 3	Potatoes, per cwt. ..	2	0 to 4
Celery, bundle ..	1	0 to 0	Salsafy, bundle ..	1	0 to 1
Coleworts, dozen bunches	2	0 to 4	Seakale, per basket ..	0	0 to 0
Cucumbers, dozen ..	1	6 to 3	Scorzonera, bundle ..	1	6 to 0
Endive, dozen ..	1	3 to 1	Shallots, per lb. ..	0	3 to 0
Herbs, bunch ..	0	3 to 0	Spinach, pad ..	0	0 to 4
Leeks, bunch ..	0	2 to 0	Sprouts, half siv. ..	0	0 to 0
Lettuce, dozen ..	1	3 to 0	Tomatoes, per lb. ..	0	4 to 0
Mushrooms, per lb. ..	0	6 to 8	Turnips, bunch ..	0	3 to 0

PLANTS IN POTS.

	s. d.	s. d.		s. d.	s. d.
Arbor Vitæ (various) doz.	6	0 to 36	Hydrangea, various, doz. ..	9	0 to 24
Arum Lilies, per dozen ..	6	0 to 9	Ivy Geranium, per dozen	3	0 to 7
Aspidistra, dozen ..	18	0 to 36	Lilium Harrissi, per dozen	12	0 to 0
Aspidistra, specimen plant	5	0 to 10	Lobelia, per dozen ..	4	0 to 6
Calceolarias, per dozen ..	6	0 to 9	Lycopodiums, dozen ..	3	0 to 0
Dracæna, various, dozen ..	12	0 to 30	Marguerite Daisy, dozen	6	0 to 9
Dracæna viridis, dozen ..	9	0 to 18	Mignonette, dozen pots	4	0 to 6
Ericas, various, per dozen	9	0 to 24	Myrtles, dozen ..	6	0 to 9
Euonymus, var., dozen ..	6	0 to 18	Nasturtium, per dozen	3	0 to 6
Evergreens, in var., dozen	6	0 to 24	Palms, in var. each ..	1	0 to 16
Ferns in variety, dozen ..	4	0 to 18	„ (specimens) ..	21	0 to 33
Ferns (small) per hundred	4	0 to 6	Pelargoniums, per dozen	8	0 to 12
Ficus elastica, each ..	1	0 to 7	„ scarlets, per dozen	3	0 to 9
Foliage plants, var. each	1	0 to 6	Spiræas, doz. ...	6	0 to 9

AVERAGE WHOLESALE PRICES.—OUT FLOWERS.—Orchid Blooms in variety.

	s. d.	s. d.		s. d.	s. d.
Arum Lilies, 12 blooms ..	2	0 to 4	Narcissi, var., doz. bunches	0	9 to 2
Asparagus Fern, per bunch	2	0 to 4	Pæonies, various, per dozen		
Azalea, dozen sprays ..	0	4 to 6	blooms ..	0	6 to 1
Bouvardias, bunch ..	0	6 to 1	Pelargoniums, 12 bunches	4	0 to 8
Carnations, 12 blooms ..	1	0 to 3	Polyanthus, dozen bunches	1	6 to 2
Cornflower, dozen bunches	2	0 to 3	Poppies, various, per dozen		
Eucharis, dozen ..	2	0 to 4	bunches ..	0	6 to 2
Gardenias, dozen ..	2	0 to 3	Primula (double), dozen		
Geranium, scarlet, doz.			sprays ..	0	6 to 1
bunches ..	4	0 to 6	Pyrethrum, dozen bunches	1	6 to 3
Iris (English) doz. bunches	4	0 to 6	Roses (indoor), dozen ..	0	6 to 1
Lilac (French) per bunch	3	0 to 4	„ Tea, white, dozen ..	1	0 to 2
Lilium longiflorum, twelve			„ Yellow, dozen (Niels)	2	0 to 4
blooms ..	3	0 to 5	„ Red, dozen blooms ..	1	0 to 3
Maidenhair Fern, doz. bchs.	4	0 to 8	„ Safrano (English),		
Marguerites, 12 bunches	2	0 to 3	dozen ..	1	0 to 2
Mignonette, per dozen			„ Pink, per dozen ..	3	0 to 5
bunches ..	3	0 to 4	Smilax, per bunch ..	3	0 to 5
Myosotis or Forget-me-not,			Spiræa, dozen bunches ..	3	0 to 5
dozen bunches ..	1	6 to 2	Stephanotis, dozen sprays	1	6 to 2
Orchids, various, per dozen			Tuberoses, 12 blooms ..	0	6 to 1
blooms ..	1	6 to 12			



HOW TO FARM WELL.

THIS is what we all want to do and all should strive to do, each in his several ways. Possibly we do not care much to be lectured, thinking, and often truly, that the lecturer knows less of the subject matter than ourselves. Men born and bred on the soil are very hard of belief that others whose knowledge has come later in life, possibly derived much from books, can know as much as they. Of course they will allow that book knowledge must be and is useful, especially that book knowledge that has chemistry as its basis, but there is no knowledge that can compete with the actual daily experience of a farmer.

No hard and fast rules can be laid down for any particular branch. Seasons vary—not only seasons, but the variations are daily and often most unexpected. Work planned carefully is upset in a hour, and all energies have to be turned at a moment's notice into another and quite different channel. On few farms are the fields of equal value from a cultural point of view; indeed, we may go further and say few fields themselves are equal all over. Every year comes a different crop, every year according to season and market must the crop be adapted or adjusted to the requirements of the soil and the market, and no novice or simple book learner can do this.

Then also it requires the experience of a lifetime to be a fair judge of stock, and stock is really the mainstay of agriculture. This is work that cannot be left to workmen however willing; indeed, there are not many farmers themselves who are here equal all round.

With some it is as horse judges they excel, and therefore they wisely make this the leading feature in their farm management. People will be inclined to fancy this a pleasant and profitable phase of business. Take the risks of breeding, the difficulty first of obtaining a foal at all, the difficulty of getting both mare and foal over the dangers of a critical time, the thousand and one accidents to which the foal and mother are alike subject. We have had ample evidence of these difficulties close at hand this year. A strong foal left for an hour or two without its mother manages, really through its own exuberant strength, to fatally rupture its bowels. The mother is required to-day to bring up another foal whose own dam has broken her neck. These are by no means isolated cases, and he is a fortunate man who after careful reckoning finds he rears one foal out of three. Commercial men would not like to take risks of this sort.

Where sheep are the chief object of culture the care and attention are endless, and great difficulty arises here often from two opposite causes—plethora of food and scarcity. Strange to

say, sheep do better on scanty pasturage (if there is any). This may be partly because all the food is well ripened, and sheep in a state of nature have to be always actively employed to get a living at all; this, of course, is where the pasturage is scarce owing to drought. Then comes a heavy rainfall, a flush of green meat, a good appetite, and it is only by the greatest watchfulness that much mortality does not ensue. The life of a sheep from the lambing pen to the butcher's slaughter house is beset by snares and dangers of every kind, only to be guarded against by a watchfulness and experience not to be learned from books.

All men, or at least very many, think they know the points of a bullock. A bullock's end is beef. He wants to be of a kindly nature, readily and easily turning his food into beef; the same with dairy cows, the surest mother, the best filled milk pail, milk that will yield the greatest proportion of fat. Judges of this stock do not learn their lesson in an hour.

A wise man is glad to take a hint wherever found, and it has been our fortune to come across an excellent paper on farming by a Frenchman. Brother Anton is sub-director of the Agricultural Institute of Beauvais. He begins by quoting a French proverb, which, for the benefit of our non-linguists, might be translated thus:—"In accordance with the capacity of the man, so is he likely to succeed."

He goes on to say that those about to farm should seriously ask themselves the question as to whether it is possible to succeed, and how that success is to be come at. The object of the farmer is to obtain as large produce from the soil as possible, and at the least cost, and to sell it in the best market. Is the intending farmer qualified to manage the first and then find the second?

Farming cannot be carried on in any sort of haphazard way. The need and capacity of the soil must be thoroughly understood. The four principal cereals each require different soil and different form of cultivation. A good farmer does not always take the largest possible crop off the land; he is too far-seeing to sacrifice the future to present needs. His business is also to return to the land the ingredients exhausted, and it is his business to find how to do this most cheaply and beneficially. Then, again, he has to bear in mind his situation relating to the market. It is folly to grow produce the carriage of which absorbs all the profit, and it is equal folly to buy feeding stuffs when equally good provisions may be grown on the soil itself.

We have heard of farmers importing Egyptian Beans and other curious come tibles, fetching them with much labour from the station, and selling and delivering their own far superior home-grown grain. Then, again, the Brother suggests that farmers would be better for a more intimate knowledge of the meat-milk producing qualities of the food provided for their stock, and also have a knowledge of which class of stock produces most beef or milk in their immediate neighbourhood, for there is no doubt that certain breeds are more adapted to certain districts, and those breeds alone should be encouraged.

It is an English custom rather to specialise, or in other words to go in for one or two branches and leave the others comparatively neglected, and we have some grand instances of great success in these several branches. The Brother is more inclined to the having of many irons in the fire; so far so good, if you can attend to them, that must be a detail left to each individual.

There is another point on which he has our warmest sympathy—namely, the question of clear account keeping. Happily this is on the increase, but accounts are rather too much lumped together, if we may use the expression. Each individual item demands consideration; the system need not be elaborate, in fact a farmer has no time for elaborate accounts. Farmers are too much troubled with a spirit of *laissez aller*, which could not be tolerated in commercial life. We may remark here that in

our opinion a year or two on an office stool is not a bad training for a would-be farmer.

It is attention to little details that is so neglected, and the watchwords of this good Brother are "Order and Economy." In his closing remarks he says:—"It is necessary that order and economy should play a part in the organisation of the system of cultivation, in the employment of machinery, in the general labour of the farm, in the sales and purchases, and the necessary journeys to town or station," and in the management of the small details so much must be done by the farmer personally, aided by his wife "if she be of the right sort."

Unless there is natural aptitude, practice with science, no man need for one moment think of taking upon himself the burden of a farm. Knowledge is power. A practical man may succeed without much scientific knowledge, but a scientific man without practice is absolutely useless.

We think there is a mistaken notion abroad about some of our old fashioned farmers. They would be "floored" if faced with an examination paper that their boys can do; but if they are unacquainted with the technical words and phrases have they not come at the results long ago by patient observation? We think so.

WORK ON THE HOME FARM.

Thunder showers have occurred in many districts, and in these favoured localities weeds will be growing whether roots are or not. Much labour will be saved if the horse hoe can be used quite close up to the row of the young plants; there are a great variety of hoes in use, and whilst some have a tendency to cover up the plants, others draw the earth away, and so can be run quite close to them. Amongst the latter, one called the Iron Age is excellent; also those made by Hunter of Maybole. The feature in them is a small mould board on each side, which, on a small scale, ploughs the soil and weeds away from the Turnip row. We have found the "Iron Age" hoe of the greatest use amongst the Potatoes; it has a set of strong chisel teeth, which break up rough clots and improve the tilth in a remarkable manner. The showers are bringing Potatoes on rapidly, and earthing is in full swing.

We have discarded the heavy two-horse earthing plough for a lighter implement requiring only one animal to work it. The pace, perhaps, is rather less, but the work is quite as well done, and one horse treads the land less than two, besides making less havoc of the headlands in turning.

The wool is all off the sheep's backs, and now awaits the market. We fear the trade will not be a good one. Ewes have stripped rather poor owing to the scarcity of keep. Flies are very tiresome, and shepherds complain loudly. Nothing is better for keeping them at bay (the flies, not shepherds) than finely ground tobacco powder—a simple but very effectual remedy.

The Mangold heap seems to increase in value as it decreases in bulk. A load scattered now and again in the sheep pastures helps to keep the ewes in milk and teaches the lambs to eat roots.

For the pig yard in summer the Mangold is invaluable. Strong pigs can be kept in splendid condition on Mangolds and Maize. Give the Maize whole, not in a trough; but scattered about the pigs will find it, and the exercise whilst hunting for it will be most beneficial. With a few Mangolds and plenty of water or swill they will do splendidly, and the cost will not exceed 1s. 6d. per week per head. Remember, pigs that are to be fattened for bacon should never be allowed to lose condition.

METEOROLOGICAL OBSERVATIONS.

OAMDEN SQUARE, LONDON.

Lat. 51° 32' 40" N.; Long. 0° 8' 0" W.; Altitude 111 feet

DATE.	9 A.M.					IN THE DAY.				Rain.
1896. May and June.	Barometer at 32°, and Sea Level.	Hygrometer.		Direc- tion of Wind.	Temp. of soil at 1 foot.	Shade Tem- perature.		Radiation Temperature.		
		Dry.	Wet.			Max.	Min.	In Sun.	On Grass.	
	(Inchs.	deg.	deg.		deg.	deg.	deg.	deg.	deg.	Inchs.
Sunday .. 31	30.211	57.1	51.4	N.W.	59.0	69.4	44.8	101.8	39.0	—
Monday .. 1	29.977	62.2	53.2	N.E.	59.0	78.0	41.1	115.2	32.3	—
Tuesday .. 2	29.727	69.4	58.2	N.E.	59.7	83.4	46.7	124.9	37.9	—
Wednesday 3	29.754	64.8	57.4	N.	61.2	73.9	53.4	106.6	51.1	0.701
Thursday .. 4	29.833	70.0	61.6	N.	61.0	80.4	54.4	119.7	47.9	0.173
Friday .. 5	29.834	61.7	55.1	W.	61.9	72.9	56.9	121.5	53.8	0.017
Saturday .. 6	29.838	58.2	54.4	W.	61.2	72.9	51.7	121.9	43.1	0.053
	29.881	63.3	55.9		60.4	75.3	50.6	115.9	43.6	0.944

REMARKS.

- 31st.—Bright sunshine throughout.
1st.—Bright sun all day.
2nd.—Bright sunshine in morning; a good deal of cloud in afternoon and evening.
3rd.—Overcast with occasional spots of rain in morning; gleams of sun in afternoon; storm rain in evening, 0.70 inch falling in half an hour.
4th.—Alternate cloud and sunshine during the day; rain and distant lightning from 9.45 P.M. to 11 P.M.
5th.—Bright early; cloudy at times during the day.
6th.—Distant thunder, and a shower at 8.50 A.M.; generally bright after.
A hot week, with a complete break up of the drought.—G. J. SYMONS.

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**Journal of Horticulture.**

THURSDAY, JUNE 18, 1896.

YORK.

WHEN the present issue of the *Journal of Horticulture* reaches the majority of its readers the first great provincial horticultural show of the year will be in evidence in the ancient metropolis of the North of England. The York gala has become famous by their attractive power, many thousands of persons attending them from far and near. The central object of the great gathering together of the people has always been the "flower show," but it would be the merest affectation to suggest that this alone would suffice to bring such an influx of visitors to crowd the tents over a period of three days.

It is not in the nature of either the operative classes, who obtain a day's rest from monotonous labour, or of other classes, who put business cares aside for a brief period of relaxation, to march as a serious cavalcade through avenues of flowers, and then march straight home again. Some few there may be who prefer to limit themselves to such a promenade, and no one, we presume, would think of finding the least fault with them; but caterers for public patronage have to recognise the existence of an overwhelming majority who require something more than a feast of flowers to engage their attention during several hours of leisure that they obtain from labour in the field, garden, factory, workshop, or office, and hence additional attractions are provided in connection with most horticultural exhibitions that are held in the summer months.

The nature of these attractions vary according to the habits, desires, and proclivities of the populations in the districts surrounding the scene of operations; and in some places, such as York and Shrewsbury, where large multitudes assemble, the subsidiaries have to be of a diversified character. There must be something in addition to flowers to please the eye, even by fireworks; something to gratify the ear, by the provision of music; something to evoke feelings of surprise, in the way of novelties and wonder-evoking accomplishments; something in fact that can only be heard and seen once a year on the occasion of these floral festive occasions. As to the form and character of the appendages,

No. 2490.—VOL. XCIV., OLD SERIES.

though there must of necessity in this world of wondrous variety be individuals who fail to see the appropriateness of this item or that in the programme, yet it is not unreasonable to assume that the experienced managers of the shows may be expected to know what is best to provide under the circumstances to meet the object in view.

The immediate object, it may be conceded at once, is to attract the people—to afford them pleasure in its purest form by the enjoyment of flowers of the best that skill can produce, with, in addition, entertainment that is harmless in itself, and which gives satisfaction equal to insuring a larger measure of patronage (weather permitting) when the gala days come round again. Continued success would only be possible by the thoughtful provision of prudent men, whose first desire is the happiness and well-being of the community. That they succeed in winning the approval, not of one section of the citizens and inhabitants of the surrounding district, but practically of all sections, is the best testimony that the managers of these annual demonstrations exercise great discretion in the fulfilment of their self-imposed duties, which are discharged voluntarily for the good of the city and the satisfaction of thousands who pass the portals of its ancient gates. Certain it is that persons of all ranks, professions, occupations, and denominations visit the floral and musical exhibitions and enjoy them, and all who were at the luncheon last year will remember the eloquent speech of the Dean of York in approval of what was done on these festive occasions, and of the benefits accruing therefrom.

The immediate object, as we have said, is to attract the people and satisfy them; but the ultimate object, to cite from the rules of the Society, is “to give encouragement to floriculture, to increase the prosperity of the City of York, and to aid the funds of the York charities.” This citation forestalls the objection that is sometimes heard to the effect that horticulture is not considered, or its advancement fostered, because of the accessories to the shows. As a matter of fact, horticulture has the first and greatest consideration. As convincing evidence of this it has only to be remembered that on the present occasion the amount allocated for prizes in classes for fruits, flowers, and plants amounts to £700. Nothing approaching this sum is devoted to music and other accessories. Horticulture is the first, foremost, and predominating feature; and who will say that the large amounts distributed in prizes year by year have not had a stimulating tendency in the direction of the best cultivation that can be represented by the art of man? Again, is it conceivable that the effort thus excited and the interest in plants and flowers awakened and sustained have had no effect on the industry of horticulture? Once more, is it not reasonable to suppose that out of the hundreds of thousands of persons who have been drawn to York by the attractions provided on the occasions of these exhibitions, and who have passed through the brilliantly furnished marquees, that some, and even many, have for the first time been impressed with the charms of plants and flowers, and determined according to their means to indulge in their cultivation? It is well known that this has been the case, and that there has been a material accession to the ranks of floriculturists accordingly.

Then again there is another and not the least important aspect to consider—the benefits that the gatherings have conferred on objects than which none is, or can be, more worthy of support, the succouring of the poor and indigent, and the comforting of the afflicted. By and through the enterprise of the managers of the York galas the city charities have been enriched by many hundreds of pounds—if we mistake not, to the amount of £2400. This is the reward, and a noble reward it is to those gentlemen who have worked in such a whole-hearted manner in making the annual gatherings so brilliantly successful as they have undoubtedly become.

As a matter of fact summer flowers shown alone—silent shows—no music or anything else to hold and attract the people, would with few exceptions be commercial failures, and in no case could anything like the results be achieved for the support of such excellent objects as are accomplished by a combination of forces as are

provided at York and other provincial centres. Even the Royal Horticultural Society at its brilliant shows in the Temple Gardens cannot dispense with music, and it is certain the people would not flock to the Crystal Palace Rose shows in such numbers as they do if there were no other attractions beyond the Roses. They enjoy the Roses and something more, and attend the shows the better when it is announced that “the grounds are to be illuminated”—an euphemistic rendering of the word that would almost seem to frighten some people—“fireworks.”

We know it is conceded by some earnest horticulturists that good music is an appropriate accompaniment to a flower show, but they think that this should suffice. Why, if such friends enjoy music, and therefore like to have it, should they wish to limit the pleasures of others whose tastes lead them to desire this and something more? So long as the open air entertainments are amusing or exhilarating in a harmless way, as they are and must be, have not the multitudes who enjoy them an equal claim to do so with those who find pleasure in another direction? As a matter of fact, and of business, the promoters of flower shows desire to make them financially successful, not for any personal gain, but for carrying out undertakings that they conceive to be good, and they resort to what they believe the best means for accomplishing their object.

The York shows have become famous in consequence of the broad-minded policy that has been adopted by the managers, among whom are included the most prominent citizens. They are patronised by His Royal Highness the Prince of Wales and the nobility and gentry of the district, while the Chief Magistrate, the Lord Mayor of the city, is the President of the Council. They are visited and approved by the leading families of the city and surrounding neighbourhood, while they attract horticulturists from various parts of the kingdom. The show of the present week is invested with more than ordinary interest, seeing that it is visited by representatives of the Council and Committees of the Royal Horticultural Society. It is fitting that this should be so, as it was at York last year that desires were expressed that the chief Horticultural Society of the kingdom should not restrict its action to London, but should in some way recognise provincial efforts and provincial work of the kind, for which the Society exists to foster. The *Journal of Horticulture* was desired to bring the matter before the public, and in consequence of what appeared the York officials were not slow in inviting the Royal to pay them a friendly visit—an invitation which seems to have been readily accepted.

Whatever may be the outcome of this pioneer visit, it is surely well that London should shake hands with York as well as with other provincial horticultural centres from time to time, if only as symbolical of the existence of a spirit of unity between the Fellows of the Royal Horticultural Society and friends and fellow workers who are striving for the same objects in different parts of the kingdom. That the Society is most willing to help on the advancement of horticulture in any practicable way and over the widest possible area there cannot be a doubt, and that the visit of official representatives of the chief Society is appreciated in York is manifest by the warm welcome accorded them. They were entertained at an excellent dinner by the Gala Society on Tuesday night at Harker's Hotel, Sir Joseph Terry, the Chairman, presiding, supported by the Lord Mayor. Among those present at the reception dinner were Sir Trevor Lawrence, Bart., Rev. W. Wilks, and Messrs. P. Crowley, S. Courtauld, T. B. Haywood, H. Selfe-Leonard, W. Thistleton-Dyer, Harry J. Veitch, Malcolm Dunn, and James Hudson. These composed the deputation, and as will be seen, the Council, with the Scientific, Fruit, Floral, and Orchid Committees, were represented. Mr. J. Wright, one of the York Judges, and Mr. J. H. Veitch, both members of R.H.S. Committees, were also included among the guests, the party present numbering about thirty. The President and Secretary of the Royal Horticultural Society are the guests of the Lord Mayor at the Mansion House, the remaining members composing the deputation are having every provision made for them at Harker's Hotel as the guests of the York Society.

No toasts were proposed at the reception dinner, but Sir Joseph Terry, in graceful terms, gave an ardent welcome to Sir Trevor Lawrence and his colleagues of the Royal Horticultural Society to York. Sir Trevor Lawrence, in responding, expressed the pleasure of the deputation in being present, a visit that had been anticipated with very much interest, but as his friend on his right, the Secretary of the R.H.S., advised him not to make a speech, but reserve what he had to say for the morrow, he would only then thank Sir Joseph Terry, the Lord Mayor, and the Council of the York Society for the pleasant welcome extended to them.

As commemorative of this "act of union," horticulturally, between London and York we have pleasure in publishing the portraits (page 557) of the Lord Mayor of the ancient northern city (Mr. Aderman Milward), President of the York Society and an active supporter of the shows; of Alderman Sir Joseph Terry, J.P., the genial Chairman and valued helper in horticulture; and of Mr. Charles W. Simmons, Secretary, who does so much work in a quiet way towards making the great annual events successful. Next week we hope to publish portraits representative of the London deputation, with a full report of the York exhibition.

Judging by the applications for space, which are causing some difficulty, the show is expected to be one of the largest and best ever yet held at York.

STRAWBERRIES AT CHISWICK.

A MEETING of the Fruit Committee was summoned to attend Chiswick on Monday last to "examine sixty stocks of Strawberries." Early Peas and Turnips were also inspected, but primary attention will be given here to the Strawberries. The whole of the varieties inspected were planted last summer, and are consequently now producing their first crop. As may be expected some varieties have grown much better than others, and the plantation as a whole, especially considering the prolonged drought and no artificial watering, was in almost better condition than might have been expected. "But why not have watered the plants?" (that were suffering before the rain came) some persons may ask. Because it was thought best to let them struggle on under equal conditions without giving assistance to any of them, and it is conceivable that some at least would not have been materially assisted by artificial showers. But to the varieties.

There is no intention to describe more than a tithe of them, as the majority were not good enough to demand prominent mention; but at the same time, it would be scarcely fair to condemn them after one season's trial alone, and they are to be grown another year.

First it may be desirable to refer to the relative earliness of certain varieties grown in the trials, and as the Chiswick Superintendent, Mr. S. T. Wright, entered the dates of the first gathering of an equal number of fruits this can be done. John Ruskin was the first to ripen, fruits being gathered on June 3rd; Royal Sovereign on the 4th, Dr. Veillard and Aberdeen Late on the 5th (is there an Aberdeen Early in the North?), May Queen on the 6th, Acquisition, Noble, Wilson's Improved, and Reeves' Eclipse on the 8th, and the majority of the remaining varieties, including the Hautbois, Countess, President, Duc de Majenta, Triomphe de Paris, Princess Royal, Edouard Lefort, Monarch, Auguste Boiselot, Sir Charles Napier, Leader, Bothwell Bank, Newton Seedling, and several others, on June 11th.

Of John Ruskin it may be said that the fruits though early were the reverse of high in quality, and it was generally thought that the variety had been overpraised. Those of Royal Sovereign were better both in size and quality, and the plants much superior too; but though this valuable new Strawberry is enjoyed by those who like a smack of acid with the sugar, a few other varieties were certainly richer. Noble was still considered useful and profitable when grown on the annual system—that is, obtaining plants from early runners, planting them a foot apart, and growing them as strongly as possible for affording at that planting distance their first and only crop, not reserving them a second year. As Royal Sovereign, Noble, Leader, and Monarch have been certificated, no awards were made to or for them on the present occasion, but a few others were stamped with approval by the Committee, and these may be briefly referred to.

Countess.—A first-class certificate was granted for this Strawberry, with only one dissentient, and this on the ground that "it would not grow in some parishes." At Chiswick, though not the most robust, it is one of the best of growers, and bears good crops of full medium-sized, rather dark, wedge-shaped fruits. It is the best Strawberry Dr. Roden ever raised, and one of the richest in cultivation—"almost too rich," a member was heard to remark, perhaps no small commendation.

Edouard Lefort.—A continental variety, and a good one, for which a first-class certificate was granted with only two dissentients. Few varieties had made better growth and afforded heavier crops of

bright, full, medium-sized, conical fruits, with clear necks, moderately firm and of luscious flavour. This was one of the best in the Duke of Bedford's experimental trials last year, and the Strawberry report from Ridgmont will be anticipated with interest this year. Edouard Lefort has probably a great future before it in this country.

Auguste Boiselot.—Also a continental variety, which had the honour of winning a first-class certificate unanimously. This variety is a good grower and free bearer. The fruits are medium sized, roundish, of good colour, and delicious flavour, perhaps a little too soft for market men, but for growth for home use the variety is worthy of being tried in many gardens.

Those were the only varieties certificated, but marks of merit were recorded for three others as possessing certain properties that could not be overlooked.

Acquisition.—Three marks of merit were recorded for this variety because of its enormous crop of large and light scarlet fruits; somewhat soft for travelling, and the flavour was not rich, still the variety may prove useful, while its sub-acid juice may be agreeable to some palates.

Princess Royal.—Three marks were registered for this variety for its productiveness and general good quality. It is a very old Strawberry, that seems to have been almost elbowed out of cultivation by at least some others no better than itself. It is described in Dr. Hogg's "Fruit Manual" as "Cuthill's Princess Royal; fruit medium sized, roundish; deep scarlet where exposed to the sun; very rich; an abundant bearer and an excellent variety for general cultivation."

Newton Seedling.—Also an old Strawberry, but distinct and productive, and therefore three marks of merit were accorded. One of the Committee (Mr. J. Wright) was able to say that he had grown this Strawberry more than a quarter of a century ago, and both in wet and dry seasons had found it one of the most trustworthy and useful, though not of rich flavour. The plants grow most freely, producing rather small dark green leaves and unusually long branching flower stalks, and for affording room for the fruit there should be a space of 3 feet between the rows of plants. The variety is correctly described in the last edition of the "Fruit Manual" as follows:—"Fruit medium sized, conical; skin dark red; flesh very firm, with a sharp sub-acid flavour. Plant very prolific and hardy, and the fruit from being of very firm texture bears carriage remarkably well." Some of the earlier fruits are large and good for dessert, the smaller excellent for preserving. Newton Seedling is one of the firmest Strawberries in cultivation. It was raised in 1864 by Rev. T. W. Chaloner, Rector of Newton Kyme, Yorkshire, and its usefulness is recognised at last.

PROSPECTS IN THE MIDLANDS.

ALTHOUGH the weather has not been "broken" as frequently as wished for during the early summer, yet occupants of the vegetable kingdom look fairly well, and of good promise in the Midlands. Roses have done and are doing splendidly, many plants having fine blooms on them, which seem more and more in request for the boudoir and drawing-room, even the "gent" having them in his study. What a study "worm" the bud" of Roses and tunnellers in stem of Carnations are! The latter promise grandly outdoors and indoors. "Malmaisons" were never finer. Of the yellows Germania takes the "cake."

Who said Peaches and Nectarines would not bear good crops of fruit when grown in pots? Trees started at the middle of January have grand fruit ripe now (June 10th), and likewise Figs. Everybody, who is anybody, can have these desserts if he likes, without being as rich as Croesus, a small house being all that is required, with Tomatoes into the bargain, but these and Figs do not do well together. Tomato growers ought to make a fortune this year, as the earlier plants are weighed down with clusters of clean fruit, no disease of any sort, and the late ones are very promising.

Early Vines have done well. Hamburgs are smaller in bunch than usual, but berries fine and well coloured. Late Vines are bearing freely, more bunches cut off than left on, and there is no semblance of disease.

Cucumbers, which could not be grown for years on account of "clubbing," are doing well. Dressing the turves with kainit, each 3 inch layer at the rate of 1 oz. per square yard, ended the eelworms in the rot heap, and those in the house went out with the old soil, or succumbed to the scalding with boiling water.

Chrysanthemums promise splendidly; black fly, however, is troublesome, but it yields to tobacco water, and even mildew to soluble petroleum.

Vegetables are well to the front, any amount in their season, and late crops promising.

Outdoor fruit:—Pears, scanty; Apples, fair crop, also Plums; Apricots few; Peaches and Nectarines an extra good crop, never saw finer; any quantity of bush fruit, and though the Strawberry plants are very old, they are promising a fair crop. So we may say generally that things are looking better than expected on account of the drought, which has told, as it always does, on shallow soil merely surface tickled, lacking humus, and mulching on the surface to keep the moisture for the crop.—EXCERPT.



SALE OF ARDDARROCH ORCHIDS.

ON Tuesday and Wednesday, June 9th and 10th, a considerable number of the stove Orchids in the collection of R. Brooman White, Esq., was sold by auction by Messrs. Protheroe & Morris. The principal London, Manchester, Edinburgh, and Bradford buyers were represented, and the bidding was at times very brisk. It is well known the collection was exceedingly rich in *Cattleyas*, *Lælias*, and *Odontoglossum crispum*, many of the varieties being unique. The highest price obtained was 65 guineas for a *Cattleya Trianae albida*; *C. Mendeli Empress of India*, 60 guineas, was next, with *Cattleya Hardyana*, 55 guineas; and *C. Mendeli Mrs. Brooman White*, 50 guineas, closely following. A piece of *Odontoglossum excellens* fetched 25 guineas, and several *O. crispums* about 20 guineas.

NOTES ON DENDROBIUMS.

THE flowering period of these popular Orchids may be said to have passed for this season, the majority of the species being over. There are, however, a few very interesting kinds in flower that require rather different treatment from the usual run of the genus. As is well known, *Dendrobies* require a hot and moist house, and a distinct season of growth and rest to attain the best results, the less important cultural details varying more or less in different kinds. One of the prettiest species now in blossom is *D. infundibulum*, and this must be treated quite distinctly from the heat-loving species.

I have tried this Orchid under various conditions, and have found it to succeed best in a temperature such as suits the Mexican *Lælias*, or rather lower than the *Cattleya* house. The plants keep very healthy and clean when grown with the *Odontoglossums*, but the pseudo-bulbs are then much shorter, and in consequence fewer flowers are produced. The atmosphere must be kept very moist, and the plants suspended so as to get the best of the air currents and a clear light, shading only being allowed sufficient to prevent injury to the foliage by scorching. The roots must be rather confined, and a thin compost only is needed, the small shallow pans so often recommended being more suitable than baskets.

Under those conditions *D. infundibulum* will be satisfactory, provided, of course, the plants are carefully attended to and not allowed to suffer by want of water at the roots. The plant is much more constant in its growing and resting season than are some of the nigro-hirsute section, to which it belongs, and each growth will flower freely, the blossoms being of the purest white in the sepals and petals, the lip ornamented with a dense blotch of yellow.

Of quite a different style of beauty and habit of growth is *D. Falconeri*, the pseudo-bulbs being short and stem-like, the blossoms occurring singly from the upper nodes of these. They are white in ground colour, the petals tipped with light purple, as is the lip, the latter organ being also blotched with rich orange and maroon. This species is not by any means easy to keep in health; newly imported plants usually grow very freely for several seasons under cultivation, after this losing vigour, and eventually becoming too weak to be worth keeping.

One of the principal causes of non-success with this Orchid is the difficulty of keeping thrips away, these insects apparently having a great liking for it. It is hardly necessary to add that continued health is out of the question while the plants are being overrun with this pest, so the first consideration, without which all cultural details are futile, is to keep the plants clean. Moisture in the atmosphere is the best deterrent, and this must never be overlooked, or the result will be a failure.

To leave the plants to extend without providing something for the upper tiers of roots to lay hold of is another cause of ill-health, so whatever is chosen to grow the plants on provision should be made for this. Possibly the best holding for it will be found in pieces of Tree Fern stems, the roots liking the roughness natural to these, and as they extend the upper tiers may be accommodated. If these stems are not obtainable pans may be used, and the young growths brought down to the surface, occasionally cutting out any that are exhausted to make room for them. Only a thin surfacing of good open compost is needed, a thick layer of close heavy material doing more harm than good, and the drainage must be open and free. *D. Falconeri* does not, I am convinced,

require the high temperature that some cultivators allow. It must be kept warm, of course, being a native of India and other tropical countries; but a night temperature of from 55° to 60° is ample at any time, 50° sufficing during the winter.

D. superbum, frequently misnamed *D. macrophyllum*, is an Orchid that must have a very long season of growth. The plant is deciduous, the flowers appearing on the last made pseudo-bulbs after the foliage has fallen, and very beautiful they are when grown in a natural manner and not tied to stakes in the stiff constrained way we sometimes see. The sepals and petals are rich magenta, and the lip is light purple with an almost white margin.

This species is growing nearly all the year round, and must have a high temperature also plenty of moisture at the root and in the atmosphere, as by this means only can the growths be finished in time for a few weeks' rest before being again placed in heat. A light sunny position is best for it, especially during the autumn, and in winter the temperature should drop to about 45° in order to rest the plants as much as possible. Good peat and sphagnum moss in equal proportions, and in a rough open condition, should be mixed with half the bulk of charcoal, and the pots or baskets used may be considerably larger than usually advised for the deciduous kinds.

Somewhat similar treatment is advisable for *D. Parishii*, another deciduous kind not difficult of cultivation, and yet not generally well grown. This species finishes its pseudo-bulbs in a shorter time than the last named, and, unlike that kind, delights in having its roots cramped for room and growing one over the other, so to speak. The pretty *D. Bensoniæ* is also in flower, and does well under the same treatment as *D. Parishii*.

All the other *Dendrobies* now in blossom have been frequently treated on in these pages, and have not so many peculiarities as those named above. Some growers may think the precautions given unnecessary, and point to a healthy plant or two not long imported in support of their views, but the plants that are longest lived under cultivation will always be those that are most closely studied and their individual tastes catered for.—H. R. R.

GREENHOUSE PLANTS IN THE SUMMER.

A GREENHOUSE of all plant structures seems to me to give the best return for the labour and expense involved in its management, simply because so many distinct sets of plants can be grown and flowered in it during a single year. This is made possible by the simple fact that numbers of greenhouse plants may be safely kept in the open air for fully five or six months in the year. At the present season cool plant houses are principally occupied with *Begonias*, *Fuchsias*, *Pelargoniums*, *Celosias*, and other showy plants which give such a wealth of flower throughout the summer months, while the winter occupants, which are composed largely of hardwooded plants, are enjoying (or otherwise) the advantages of a sojourn in the open air. Very often the cultivator has but little choice in the position he assigns to such plants, for strange as it may appear standing room for plants in the open air is far too limited in the majority of gardens, and the utmost that can be done for the well-being of each class is to arrange them in masses wherever space occurs. Other gardeners more favourably situated may do much to promote health and vigour in their plants by placing them in positions the most suitable during the hot days of the summer. In the case of *Azaleas* I have seen many instances in which fine plants have been injured rather than improved by their stay in the open air, this being caused by two mistakes—viz., placing them in the open air before growth was completed, and giving them too dry and sunny a position.

There has been so much written from time to time about "ripened wood" both for fruit trees and flowering plants that many have been led to erroneously believe the term is intended to describe the process of "roasting half-ripened shoots," instead of the gradual development of sound woody tissue which, under favourable conditions in regard to sunshine, becomes fully matured. I never like to place *Azaleas* in the open air until growth is completed and the leaves have begun to harden, and then I prefer to give them a west aspect to one due south, as I have never experienced any difficulty in "ripening" the wood of *Azaleas* in any fairly open position. Whenever it is necessary to turn plants out of doors before the growth is completed, they should be placed in a shady position, such as the back of a north wall, or receive shading by artificial means for a few weeks. This treatment, together with a couple of daily syringings, will bring them through safely. Before arranging *Azaleas* in their summer quarters it is important to take steps to destroy any insects which infest them. Thrips are

their most troublesome pests. If any of these are found the plants should be laid on their sides and syringed with one of the many effectual insecticides. A solution of tobacco water or XL All insecticide are each good.

When the plants have perforce to be arranged in dry hot positions all, excepting these in very large pots or tubs, should be partially plunged in coal ashes or cocoa-nut fibre refuse, a slate or tile being first placed under each pot to prevent the ingress of worms. With careful watering and a thorough syringing during the afternoons of hot days, satisfactory progress ought to be made, and by the middle of September healthy plants set with flower buds will be ready for placing under glass.

Camellias succeed well under precisely the same conditions; but in the case of very large plants I prefer to keep them inside altogether, as their removal entails a great amount of labour, often results in broken branches, and when wet seasons occur the soil about the roots becomes sodden, and bud-dropping is the result. By leaving a few plants inside a succession of flowers during the autumn and winter is more easily obtained, as those treated in this way swell up their flower buds more quickly, and in time have a natural habit of flowering in October or November without the slightest attempt at forcing being necessary.

Genistas are often grown in large numbers for spring and early

necessary potting should be done, and the plants stood in a shady position for a time and be kept well syringed. Should the summer prove a hot one a north or west aspect suits them throughout better than a south one, as in the latter position red spider is often troublesome.

Such species of Acacias as Drummondii, grandis, pulchella, and Riceana are subjected to the same treatment as Genistas with the exception of the latter, which seldom requires pruning. Armata is an exceedingly pretty species, but so quickly falls a prey to thrips that it requires constantly syringing with insecticides to keep it healthy; for the same reason it should be given a north aspect, and be syringed with tepid water twice daily in bright weather.

Epacris, Erica hyemalis and its varieties, seem perfectly at home in an open sunny position. If the pots are plunged to half their depth in cocoa-nut fibre refuse, and a bag containing a little soot is kept in the cistern from which the water given is obtained, a healthy well-coloured growth should be the result.

Callas intended for early flowering must of course be kept in pots, and receive abundance of liquid manure throughout the summer months; strong flowers will then be produced during the

autumn without any recourse to much fire heat, and the main supply if planted in well-manured trenches will afford grand flower spikes at Easter.

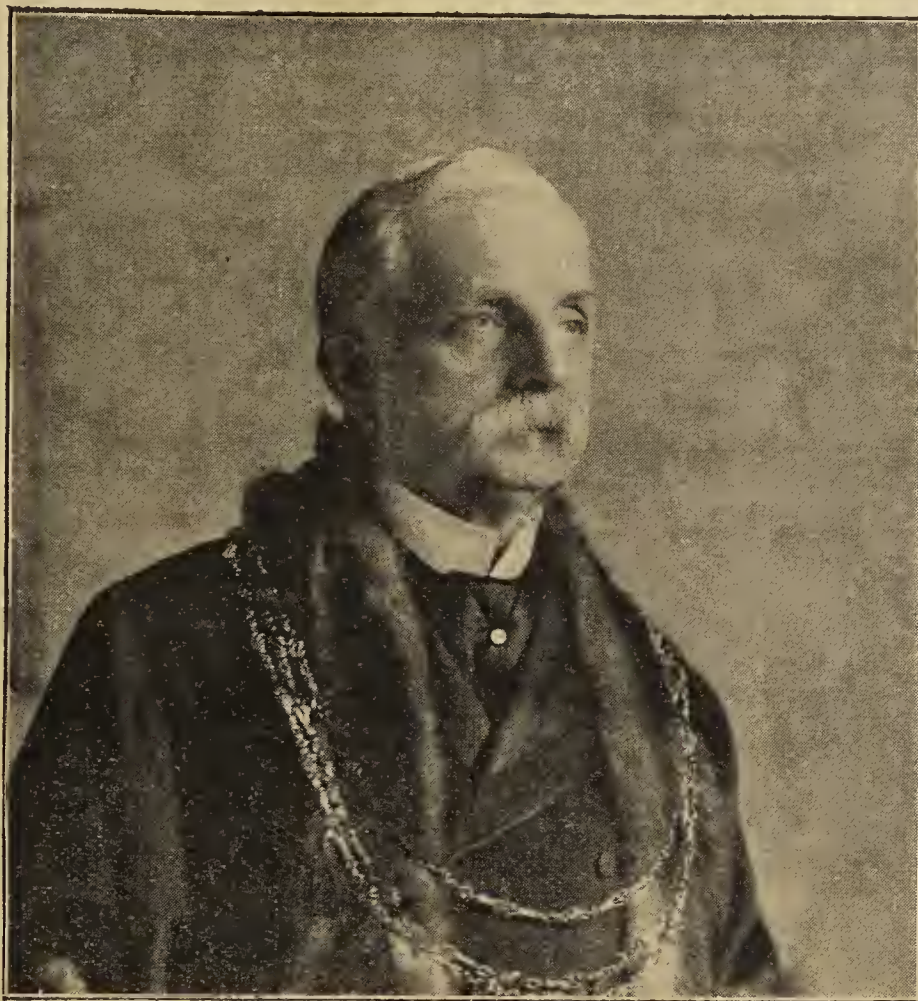


FIG. 94.—THE LORD MAYOR OF YORK.



FIG. 95.—MR. CHARLES W. SIMMONS.



FIG. 96.—ALDERMAN SIR JOSEPH TERRY, J.P.

summer flowering, and valuable plants they are, giving a good return to the little attention required. Where not already done the shoots should be trimmed into shape; hard cutting back is not necessary, except in the case of any that have branches bare at the base. As soon as the young growths are moving freely the

When once greenhouse plants of the nature above indicated are arranged in suitable summer quarters, regular attention to watering, syringing, and feeding will insure the requisite health and vigour to enable them to pass successfully through the trying days of the winter.—PLANTSMAN.

HARDY FLOWER NOTES.

THE American lover of Nature, Henry David Thoreau, in "Summer," speaking of the Water Lilies, says:—"I found two Lilies open in the very shallow inlet by the meadow. Exquisitely beautiful, and unlike anything we have, is the first white Water Lily, just expanded in some shallow lagoon, perfectly fresh and pure, before the insects have discovered it. How admirable its purity! How innocently sweet its fragrance! How significant that the rich black mud of our dead stream produces the Water Lily! Out of that fertile slime springs this spotless purity." These words were recalled to my memory by the opening of the first Water Lily flower in my little pool the other day, and now I cannot help quoting them, knowing that they will do more than any language of mine to induce lovers of flowers to take up to some extent the cultivation of these beautiful Nymphaeas and other aquatic plants. There are thousands of lakes and ponds, which are now blots rather than beauties in the grounds they are supposed to ornament. Plant these, however, with some of the newer Water Lilies, some of which I have seen, and others I hope to see before long; and these sheets of water will be transformed in the summer into gardens bright with beautiful flowers set among floating leaves, whose quiet attractions enhance the beauties of the gems, of which they form the setting.

Nor is it the owner of broad acres alone who can grow these flowers, for there are few gardens, even if small, where space may not be found for a little pool, a small tank, or even the homely water-tub, in which some Water Lily, such as *Nymphaea Laydekeri* roses or *N. marliacea chromatella*, may grow and flower to the delight of all who see it. There are many places in nearly all gardens where such a little pool would suit well with its surroundings. The rock garden presents many such. My own small pool, which as yet has only one of the North American white Lilies—*N. tuberosa*—in flower, although others are planted, has been much admired by visitors. It does not yet satisfy me, but as its boggy margin, planted with Irises, hardy Orchids, Primulas, Rodgersia, and other moisture-loving plants, becomes better furnished it will be a pleasure-giving feature to the garden. It is fed with water from the garden well, and does not require a constant stream, but only replenishment occasionally. Much as one would like to expatiate on the Water Lilies and other aquatic plants no less interesting, there is too much beauty around to permit of me giving details which can be better withheld until days are shorter and flowers are fewer, and we must turn our thoughts to other plants of diverse nature and beauty.

The hedgerows are festooned with wild Roses, which climb through the Hawthorn or up among the pliant, yielding branches of the Willows near by. The garden Roses are delightful, full of sweet odours and models of beauty in form. What can surpass some of their colours and shadings? and with what luxuriance and profusion of bloom do some of them grow. The earlier Lilies are in bloom, and perhaps ere this appears the Madonna Lily will have opened its flowers—emblems of chastity. There are Irises many, of colours many, and of many types, such as the Flag Irises, in great array, and the English and Spanish Irises, which represent the bulbous section. Pinks are delightful in their beauty and delicious in their perfume, and an old plant of Mrs. Sinkins nearly 11 feet in circumference is a mass of beauty and fragrance. Every year I expect will be its last, but still it lives, and though it encroaches on other things I cannot harden my heart to the task of cutting it back. It is very beautiful as it is, and the many sweetly scented flowers yielded by it and the other Pinks are acceptable to those who receive a share of the blooms.

My readers will become weary of my reiterated remarks in praise of the Poppies, so that I shall only say that at present they are full of brightness as they flutter in the breezes and glance in the sunlight. If their perfect beauty is to be realised they should be seen in early morning when the flowers have cast their green coverings, and, butterfly like, emerge from the chrysalis stage into their full glory.

The Stonecrops and Houseleeks are now having their innings in the gala days of the season. The dry and sunny weather has suited them well, and their starry flowers of white, pink, yellow, cream, and of grey add to the garden's effect. We call them starry, because they so appear when seen singly, as many of the Stonecrops are so covered with flower that, except when near, the single blooms are undistinguishable. The Bellflowers are numerous, too, in sheets on the rockeries or raising their spikes among the other border flowers. Great favourites of mine are these Campanulas, and well worthy are they of even more than the high favour in which they are at present held by flower growers.

Beautiful are these Bellflowers with their blooms of blue or purple or white, but the first colours are more nobly represented by the perennial Larkspurs, quaintly called in olden times Lark's-

heels, or Lark's-claws, and Lark's-toes. There are wonderfully beautiful shades of colour among these *Delphiniums*. It is not enough to see a few plants in a garden, for no one can fully realise the variety of shade they show until they visit a large nursery where there are many varieties. Nor is it enough to wander among their towering spikes and to study their effective colouring as thus presented. We must look into the single or semi-double flower, and see its colouring and shading. There are royal purples, Oxford and Cambridge blues, with lustrous effects, as seen on the feathers of some pigeons; varieties of form and endless differences, apparent only to the eye rendered keen by practice and sharpened by love for refined floral beauty.

Then there are many other flowers, such as Spiderworts, perennial Peas, Rockfoils, Speedwells, Violas, Meadow Rues, Masterworts, Meadow Sweets, Sea Hollies, Androsaces, and others, whose charms enhance the garden's attraction.

A truly quaint-looking flower is *Phlomis viscosa*, best known in gardens as *P. Russelliana*, but figured in table 2542 of the "Botanical Magazine" as *P. lunatifolia Russelliana*. I do not know that anyone is bold enough to say it is a refined flower, but with all its coarseness it is a conspicuous plant in the garden, and there are many who look on it with covetous eyes. It is easy to gratify their desire to possess it, as it increases rapidly, and soon takes up a good deal of room. It grows from 3 to 5 feet in height in a general way, but I have seen it a little taller in good soil in a favourable season. Its leaves are wrinkled-looking, tomentose below, and green above, and ovate in form, but heart-shaped at the base. The pale yellow flowers are produced on the stems in whorls numbering sometimes forty or fifty flowers in each whorl. It was introduced from Syria in 1821, and forms one of a large genus of some fifty or more species, comparatively few of which appear to be in cultivation, due to some extent to the coarse habit of a good many of the species. The natural order to which it belongs is that of the *Labiatae*. *P. viscosa* is easily grown in any garden soil, and may be increased by seeds or division.

I observe that among the plants exhibited from Cheshunt at the Royal Horticultural Society on 5th May was *Artemisia sericea*. This is a very beautiful plant for the rock garden, thriving best in a sunny and rather dry position, and sometimes suffering from winter rains. It does not appear in the majority of ordinary works of reference, but the name is recognised at Kew, and appears in the "Hand List." From that useful work, and from the older editions of the "Cottage Gardeners' Dictionary," I learn that it is a native of Siberia, and was introduced in 1796. This silky leaved Wormwood or Southernwood is a dwarf trailing plant, with the linear narrow leaflets quite silvery or silky looking. It is very attractive from its foliage being so silky and elegant in habit, but its beauty is lessened if allowed to flower. I have permitted it to flower this year, and it is at present in bloom. The flowers are very small, and of a colour which is by courtesy called white, but is certainly not pure, and the green bracts partially cover the flower, making it look very poor indeed. The foliage of the plant is, however, sufficiently pretty to make it an acquisition in the rock garden, where it looks well hanging over a stone. I grow it in light sandy soil with a west exposure, but shielded from the greater quantity of the heavy rains which came from that direct. *A. sericea* may be increased by cuttings, which root more easily if taken with a heel.

Now I must close after taking special notice of two plants, certainly not so bright nor so showy as many. The charm of the garden of hardy flowers is not altogether given by brilliant bloom, but also by what was a striking feature of the old gardens, of which Forbes Watson says, in contrasting them with those in which the bedding out system was carried out, "It was different in the old gardens, because there was just variety there; the plants strongly contrasted with each other, and we were ever passing from the beautiful to the curious."—S. ARNOTT.

FRUIT TREES IN POTS.

GROWING fruit trees in pots is a method of culture which cannot be said to be generally practised in private establishments. Perhaps it is because the advantages accruing from the system are not generally known, and in consequence not appreciated; or it may be that with the exception of a limited number of large gardens the glass accommodation is not sufficiently extensive to allow of any new departures whereby such accommodation would necessarily be encroached upon. The splendid examples of Peaches and Nectarines in pots shown from time to time by Messrs. Rivers & Son, Sawbridgeworth, have been excellent object lessons to recommend the system for the early forcing of the fruits named.

In most gardens of any size and pretensions the early forcing of

Peaches and Nectarines is carried on with a varying degree of success, and under the old and generally recognised system one or more houses have to be kept entirely for that purpose, and the same trees are forced year by year. Practically speaking, such houses are monopolised by the trees, as it is impossible to use them for any other purpose except the period during which the trees are destitute of leaves, and even then they can only be used for the temporary accommodation of plants. Here, then, the economy of pot culture is obvious. Suppose we have a span-roofed house affording room for a hundred trees in 12-inch pots, these may cost, say, 10s. each, and the average yield under proper treatment will be from six to ten fruits each. The market price of early fruit is such as will pay for the trees the first year, and at the end of June they may be stood outdoors, and the structure utilised for growing Melons or Tomatoes, which will be over in time for the reception of the fruit trees.

Again, continued hard forcing soon has a perceptible effect on the vigour of planted out trees, and in this respect gardeners are often in an awkward predicament. They must have the fruit, and perhaps owing to various circumstances have only one house which can be forced, but with trees in pots arrangements can be made so that a change may be given. If further evidence be wanted suppose, as is often the case, a large planted out tree fails. The loss is serious, as it may monopolise the whole of the house, no fruit is forthcoming, and the gardener has to account for it. He may do so satisfactorily or he may not, but with pot trees this risk, and indeed it is a risk, is reduced to a minimum, for if even half a dozen trees fail it is natural to expect that the deficiency is made up by the remainder. Further still, the roots being under direct control the requirements of the trees can be more closely studied, the result being finer fruit. Perhaps this method of forcing has not been adopted much owing to the lack of suitable varieties, but now no such reason can be given, for thanks again to the Sawbridgeworth firm we have Early Rivers Nectarine, one of the best flavoured in cultivation, and ripening its fruit a fortnight before Lord Napier; but earlier still is Cardinal, which was splendidly shown at the Temple show, and figured on page 493 of the *Journal of Horticulture*, though the latter, which is only of recent introduction, is not yet generally known.

From argument let us turn to illustration. Visitors to the Drill Hall, Westminster, on the occasion of the last meeting of the Royal Horticultural Society will remember the fine examples of Nectarines in pots shown by Mr. Jas. Hudson, gardener to Leopold de Rothschild, Esq., at Gunnersbury House, comments on which led to an invitation resulting in a visit to see the trees at home. Pot fruit culture is yet in its infancy at Gunnersbury, but sufficient has already been accomplished to satisfy both Mr. Rothschild and his gardener that the experiment has turned out a success. From evidence shown our conclusions are that, whether looked at from a financial point of view or only as a means of obtaining fine fruit for the dining-room, fruit culture in pots gives a good return for the outlay.

Curiosity led us to inquire what prompted the experiment, and we were informed that Mr. Rothschild was so taken up with a fine exhibit of fruiting trees he saw at a show that he at once determined to go in for it. In this he received the co-operation of Mr. Hudson, the result being that three span-roofed houses were erected and trees purchased to fill them. Two years have elapsed since a start was made, and Gunnersbury now presents an admirable illustration of the success of a system so little adopted in private gardens. The early house accommodates sixty trees in 12-inch pots, Peaches taking up one side and Nectarines the other in equal numbers. These were started early in December, and fruit was gathered on the 30th of May. The average in the early house is about six fruits to a tree, and at the time of our visit many of the latter were stripped. Among the Nectarines Early Rivers is predominant, and Mr. Hudson considers it to be quite three weeks earlier than Lord Napier. In addition to the above named are Dryden, a large kidney shaped fruit, and Advance, the earliest of the green-fleshed Nectarines. Throughout the samples are large and richly coloured, fully illustrating their adaptability to pot culture.

Turning to the Peaches we learn that Waterloo and Early Beatrice were picked at the end of May. Of these Mr. Hudson speaks very highly, being of rich colour and fine flavour. In addition to the above are Early Grosse Mignonne, Hale's Early, Condor, Early Silver, and Early York, but at Gunnersbury the latter is not so satisfactory as those preceding. Not a blank was noticed amongst the trees, and throughout the foliage was clean, verdant, and robust—characteristics of good culture.

In the second house are a similar number of trees, carrying an average of ten fruits each, and though yet hard and unripe, richness in colour is apparent throughout. These, Mr. Hudson informed us, were started about the middle of January, or six

weeks later than the early house. Several of the varieties already mentioned are here included, and in addition Dr. Hogg is bearing large firm fruits. Sea Eagle does well in pots, and is remarkable for its colour and size, and Mr. Hudson also speaks well of Crimson Galande and Stirling Castle. Nectarines are equally represented, amongst which are Lord Napier, Stanwick Elruge, Byron, Pineapple, and others, illustrating their adaptability, respectively and collectively, to the conditions under which they are grown.

No better object lesson could be given than the late house of the variety, which can be accommodated in a small structure, for though only 33 feet long and 33 feet 6 inches wide, we found Apricots, Apples, Cherries, Peaches, Nectarines, Pears, and Plums. In the cultivation of Apricots in pots there appears to be much yet to learn; but Mr. Hudson is fully engrossed in the new departure, and will, we feel sure, succeed. Cherries are a grand crop, bearing superb clusters of fine fruit of such varieties as Early Rivers, May Duke, Frogmore Bigarreau, and Gaigne Annonay. It is worthy of remark that this year Bigarreau de Schrecken Cherries outdoors were gathered on the same day as the earliest in pots. Among Apples, Mr. Hudson considers Cox's Orange Pippin to be the best for pot culture, and the trees bring to perfection an average of six or seven fruits on each. Ribston Pippin and Washington are also spoken highly of. Plums look healthy, and are carrying good crops of fruit. Grand Duke, a dark purplish blue Plum, is highly eulogised, as also is Golden Transparent Gage, a most delicious late fruit. Included also in the collection are Monarch, Coe's Golden Drop, and Kirke's.

Pears bring to perfection a crop of about six fruits to a tree, but Mr. Hudson finds them considerably more trouble than Peaches and Nectarines, the crop being less certain. Doyenné du Comice, Durondeau, and Conference we learnt do well, and are good for the purpose; but Pitmaston Duchess is, under pot culture, a very shy setter. Mr. Hudson is making experiments with several varieties in order to find out the most suitable. Peaches and Nectarines are here grown for autumn use, and carry from eight to twelve fruits on a tree. Throughout the fruit is swelling satisfactorily on such kinds as Nectarine Peach, Gladstone, Barrington, Exquisite and Golden Eagle, and Nectarines Victoria, Pineapple, and others. The trees, we learnt, are potted annually, and fed with stimulants after the fruit is swelling.

Mr. Hudson is thoroughly engrossed in the new departure, and has already acquired from experiment much useful knowledge respecting the pot culture of fruit trees. On one point he is determined, as also is the writer, that for the early, economical, and successful forcing of Peaches and Nectarines, no system equals that of growing the trees in pots. Whether this opinion will be generally entertained, and the method of culture universally adopted, is of course for the future to decide.

It would not be fair to close any notes relating to fruit at Gunnersbury without making reference to a splendid crop of Lord Napier Nectarine, quite the finest show seen, just now ripening something like 400 fruits on one tree, and occupying the whole of a lean-to house. The fruits are regularly distributed over the tree, large and richly coloured, while the foliage is free from pests of any kind, giving ample evidence of the utility of this variety as a heavy cropper.—G. H. HOLLINGWORTH.

"THE LEAFY MONTH OF JUNE."

AT this period of the year atmospheric influences are of the most inspiring character. The stately trees by which I am environed have reached the utmost fullness of their glorious foliage, and our glens are filled with myriads of wild flowers, of which one fair family has no sooner faded than another appears. No longer do we discover the deep hyacinthine blaze dreaming around the roots of the trees, and filling the forest with an aspect, not soon to be forgotten, of vaporous blue; the glory of the Hawthorn, which I termed in a previous article "The Bride of the Woodlands," has passed into another form of existence, in harmony with the generous tendencies of Nature; perhaps not so attractive to the outward vision, but more providential, especially to those sweet singers of the woods and waysides, whose songs are sung, as Shelley has told us in his poem on the skylark, "with unpremeditated art." On our western coasts, whence we look across the summer seas to the Isle of Man, *Scilla verna*, also sometimes called *S. maritima*, has found in the Sea Pink a graceful successor; while at long intervals the wild Orchis, with its racemes of intensely purple flowers, reigning in solitary state among the Heather and Heath, suddenly towers into view.

Geranium Robertianum, to which I alluded in a former contribution to the *Journal of Horticulture* as one of the most delicately beautiful in habit of all our wild flowers, has of late established itself with my permission—may I not also say to my great gratification?—on the north wall of my garden, where it rivals its companion, the *Linaria*, in effect. Independently of the unobtrusive sweetness of its blossoms, there is a marvellous symmetry in the formation of its leaves.

While I am specially fascinated by the wild flowers at this season,

conspicuous among which are *Rosa canina*, the intensely fragrant Honey-suckle (the most tropical in its aspect of all British flowers), and the pendulous clustering Eglantine, which grows and flowers here luxuriantly to the very verge of the sea, I am not forgetful of the beauty and attractiveness of the garden. During the last fortnight *Aquilegia coerulea hybrida*, *A. canadensis*, *A. californica*, *A. alpina superba*, and many charming varieties of the Veitchian hybrids, which were originated at Chelsea by Mr. Harry J. Veitch, who is a great admirer of those Orchid-rivalling flowers, have produced many memorable and striking effects. *Aquilegia chrysantha*, which blooms for three months in cool situations such as those I have assigned it, is just preparing to unfold its primrose flowers. This special *Aquilegia* grows grandly with me, to a height of 4 feet, in pyramidal form, and nothing could be more commanding than its dense masses of golden bloom, which it pours forth incessantly with prodigal affluence during its long and gracious reign.

Aquilegias should be much more widely cultivated, both in England and in Scotland; and if anything I have written, either here or elsewhere, in vindication of their rare beauty and singularly chaste formation should tend in any measure to increase their popularity, I shall feel amply rewarded for my efforts in this direction. I hope they are widely grown and much valued by Mr. Arnott, one of the most interesting of the many contributors to this Journal, whom I have always recognised as a great authority on the subject of herbaceous flowers.

Notwithstanding the long prevalence of dry and sultry weather, Oriental and American Lilies promise to bloom abundantly this year. Such varieties as *L. candidum*, *L. auratum*, *L. Szovitzianum*, *L. davuricum* (the Siberian Lily), and *L. chalcedonicum* are full of promise; while *Lilium dalmaticum* has produced on one stem thirty-five flower buds, and grown to a height of 7 feet. I have this year among my most precious floral treasures an Asiatic *Lilium* that I have never seen elsewhere, or even heard of previously—a pure white *Szovitzianum*, a unique variety, which should prove, when propagated, to cultivators of the Lily a distinct acquisition. *Lilium Krameri*, judging from present appearances, seems likely to flower with me for the first time this summer. It is of great value, if only for its distinctive complexion.

One of my *Magnolias*, *M. Watsoni*, has recently produced a superbly effective creamy white, highly fragrant flower, 6 inches across. Many of the Californian *Calochorti* are in bloom, and the *Mariposa* Lilies are sending up their spikes, crowned with an abundance of buds, to a considerable height. A large number of my Rose trees are already very effective, especially such grandly decorative varieties as *Marie Van Houtte*, *A. K. Williams*, *Madame Bravy*, one of the loveliest of existing varieties raised by the late M. Guillot of Lyons; *Madame de Watteville*, essentially, by reason of its remarkable colouring, a "florists' Rose"; *Souvenir de S. A. Prince*, which I hope will perpetuate the name of the Oxford rosarian; *Beauté Inconstante*, a consummate beauty, surpassing *L'Idéal*, which I find by no means inconstant here, whatever she may have proved herself to Messrs. Pernet & Ducher, by whom she was raised; and *Kaiserin Augusta Victoria*, of immense substance, one of the grandest of Hybrid Teas.

I have at last been successful in establishing that most brilliant of all climbing flowers, *Tropaeolum speciosum*, in various shadowy regions of my garden. It has already made every adequate preparation for blooming to a height of 14 feet.—DAVID R. WILLIAMSON.

EARLY LOUISE PEACH.

THERE are few varieties of Peaches or Nectarines that can bear the strain of very early forcing. By this term is meant the starting of the trees, and bringing them on so as to ripen the fruit in April or early in May. The American varieties, *Alexander* and *Waterloo*, which are much alike, and both clingstones, with a deep suture on one side and much depressed at the apex, are not reliable. These varieties have plenty of colour in the fruit when exposed to the sun, and the quality is unimpeachable for early fruit. The great defect of the trees is that they cast the buds as certainly as the seasons come round. There are exceptions, which are about as rare as *Madeleine Rouge*, or *Red Magdalen*, producing both Peaches (downy) and Nectarine (smooth skinned fruit) on the same tree, and still rarer on the same branch. Indeed, they so cast the large buds, and the small are so few that there is seldom anything but much chagrin to the grower and disappointment to the would-be eater. For growth in houses not started before the new year, and then not brought forward rapidly for ripening the fruit before May, they do better, yet even then the buds are usually cast at the rate of 90 per cent.

Such are the doings of these very early varieties from the New World in the Old upon a run of years when the trees are forced very early, and in consecutive years under fixed roofs. A grower who forces Peach and Nectarine trees in pots to ripen the fruit in early May considers them excellent, inasmuch as the trees only cast the buds on the older parts of the last year's wood, and retain sufficient on the later formed or more sappy wood, and on the last formed spurs for a crop. Thus there are more ways than one of doing a thing—one way a failure and the other a complete success. The trees in the grower's case mentioned are stood outdoors as soon in June as the weather is favourable, syringed, watered, and fed during the summer as required; the "grand secret," as the grower says, is to keep them clean and the leaves on until Michaelmas

or after, and to repot or top-dress on the Rivers system whilst the leaves are still green and fresh on the trees. Then, he says, the fresh rootlets lay hold of the new soil at once and the young fruit is well supplied with nourishment, even while dormant in the bud, taking care to leave the trees outside, where they are safe from everything, and the pots are plunged over the rims in ashes until the time arrives for starting.

So successful is that method, that the grower absolutely refused an offer to have a new house and trees on the orthodox flat trellis system. But he is also a grower of *Chrysanthemums*, which he declares require a house to themselves from October 1st to January 1st. As for the three months, Tomatoes are brought on in pots elsewhere, and are in fruit when the house is ready to receive them. These give about 1 lb. of fruit at 4d. per superficial foot of area enclosed by the walls (boards tongued and grooved) and the simple glass roof, with about 15 inches glass at the side next the eaves. One Peach or Nectarine (he is enraptured over *Early Rivers*) is also had from a like area, and the crop brings 30s. per dozen. Last, but not least, every superficial foot of area affords a specimen bloom of *Chrysanthemum*, worth 4d., or for the whole three crops 3s. 2d. per superficial foot, the cost of production for the whole being 1s. 8d. per foot, leaving 1s. 6d. profit, interest on capital, wear and tear, and (be it said) loss, which it is as necessary to make provision for as for other certainties of business. "It pays," we remarked. "Not much," is the rejoinder; "there is a living in it, and by thrift something for a 'rainy day,' and may be 'old age.'" Three good things, which come surest by striving for intelligently, and not clamouring for protection, State aid, and Government old age pensions—alias pauperisms.

Alexander (not the Great) and *Waterloo* (not Wellington's) Peaches are not so satisfactory as *Early Louise* over a run of seasons, and it is thoroughly orthodox, doing even better on the flat trellis system than those in pots. Everybody knows it, for it ripens on walls outdoors about the middle of July, and is the earliest Peach, combining attractiveness with productiveness and usefulness. *Early Beatrice* is a few days earlier, but the tree is not nearly so healthy, being as fickle as the old *Red Magdalen*, of which type it is, though raised from *White Nectarine* by Mr. Rivers, nor is the quality equal to *Early Louise*.

Dr. Hogg describes *Early Louise* Peach in his "Fruit Manual" as follows:—"Fruit of medium size, round, marked on one side with a deep suture, which is deep over the crown. Skin highly coloured and bright red. Flesh very tender and richly flavoured, yellowish white, even to the stone, to which it adheres. Flowers small. Leaves with kidney shaped glands."

In a Peach house started on January 1st for many years it has always been remarkably fertile, 90 per cent. having to be taken off in some years, as Mr. Blackmore says, should be "right early," and ripened two fruits per superficial foot of trellis covered by the tree by the middle of May on an average of ten years; while the old-fashioned *Royal George* has been five, and sometimes six weeks later in ripening in the same house. *Hale's Early* interloped between the two varieties gives an excellent succession, and the quality of the trio is superb.

The tree of *Early Louise* is an excellent grower, healthy and a good bearer. In but one instance have we record of its casting the buds, and that was clearly traceable to defective root moisture, the tree having become over-luxuriant and water withheld to check the exuberance, resulting in "deaf" or imperfectly formed buds.

Early Louise appears to do better on the planted-out and trellis system than on the potted and cramped principle; hence it does well against a wall with a south aspect, and sometimes ripens its dainty fruit, essentially a ladies' one, by the middle of July and, as a rule, from that time to the end of the month. Both *Alexander* and *Waterloo* are apt to have the fruit "warted" if the weather be at all dripping when the last swelling is being taken, but this defect never comes to the fair *Early Louise*. The skin is always a delicate greenish yellow with a flush of bright red on the cheek, and as sleek as possible. In brief, as a tree for forcing to ripen fruit by the middle of May, and for a south wall to give it two months later, *Early Louise* is the best very early Peach.

What a change has come over Peach and Nectarine growing during the last half-century! *Early Anne*, a medium-sized pasty fruit, which as a recorded variety dated from 1724, ripened about the middle of August on walls, and to have fruit in May trees of this variety had to be started in December or even before. Now no one need care to start before the new year, then by rational, not the "express" and "smash up" system, treatment both ripe Peaches and Nectarines can be had by the middle of May, and a succession insured from such house for two months.

My selection of six varieties, three Peaches and three Nectarines, are:—*Peaches*, *Early Louise*, *Hale's Early*, and *Dymond*; *Nectarines*, *Early Rivers*, *Stanwick Elruge*, and *Pineapple*. No great amount of forcing is necessary, and the free ventilation to insure a long succession of fruit, prevents very early formation and over-maturity of the buds.

Then with a south wall and a proper selection of varieties, *Early Louise* being one to begin the Peach season, and *Early Rivers* included to commence the Nectarine year, both luscious Peaches and Nectarines may be had into October, for these fruits can be grown quite as well as ever against walls, if afforded the needful protection in the spring and the requisite cultural management. The climate of this country has not changed for anything but the better during the last half century, everything being benefited in health by the thorough systems of drainage throughout the country, except the riders of hobbies.—HALF-CENTURY.



EVENTS OF THE WEEK.—With the opening of the Rose season horticulturists will become very much busier, though there are other shows than those devoted exclusively to Roses. On Saturday the Pansy and Viola Society will hold its first annual show in the Botanic Gardens, Regent's Park; on Tuesday the Committees of the Royal Horticultural Society will meet at the Drill Hall, while on Wednesday will be held the Richmond and Reading shows. In connection with the latter will be held the southern show of the National Rose Society.

— WEATHER IN LONDON.—Since the publication of our last issue the weather has undergone another change, and returned to clear skies and brilliant sunshine. Not a drop of rain has fallen since last Wednesday, and the ground is rapidly becoming very dry again. Twenty-four hours' steady downpour would be appreciated by most horticulturists. Just as we were going to press a slight shower fell, and there were indications in the falling barometer of more.

— ROYAL HORTICULTURAL SOCIETY.—The next Fruit and Floral meeting of the Royal Horticultural Society will be held in the Drill Hall on Tuesday, June 23rd, 1 to 5 P.M., when special prizes will be offered for hardy herbaceous flowers. At three o'clock a lecture will be delivered by Mr. Samuel Hexton, F.R.H.S., on "Gardeners—Past, Present, and Future."

— PRIZES FOR LENT LILIES (*HELLEBORUS ORIENTALIS*).—The undermentioned prizes for the Oriental Hellebore and its varieties are offered by the Royal Horticultural Society to all comers—amateurs, gardeners, or nurserymen. The plants are to be judged mainly by their fine growth and bloom; they must be grown in the open air, and shown in mossed bundles, baskets, pots, or tubs at the first meeting in March, 1897. First prize for a group of twelve plants in not less than six varieties, £7 7s.; second prize, £3 3s. Varieties of *H. niger* and *H. viridis* are excluded.

— NEW YORK BOTANIC GARDEN.—Professor Nathaniel L. Britton of Columbia University was appointed Director-in-Chief of the Botanical Gardens at a recent meeting of the Board of Managers, held at the garden site in Bronx Park. It was the unanimous opinion of the Board that Professor Britton, who is now Professor of Botany at Columbia, was eminently qualified for the position, not only because of his learning, but because of his intimate knowledge of the organisation and management of the botanical gardens of Europe. At the same meeting it was announced that about 250 persons had qualified as annual members, and that names were still coming in.

— POTATO GROWTHS.—To anyone observant of what is around them there seems to be always something to be remarked on in regard to Potatoes. I had evidence of that a day or two since when looking over some allotments where Potatoes were largely planted. I found that most generally the tops were dense, the growths numerous, and not strong, and there was altogether lacking that robust growth usually found when Potato sets have been well sprouted. Really the breadths were the product of either sets that have been badly stored, and once or twice spindled in the dark, or they had been cut back by frosts after too early planting. I think, however, the former to have been the chief cause, as what was seen was just like what may be so commonly seen elsewhere when Potato sets have been spindled. By way of contrast were several rows in one plot. These were from a medley of sets, about a peck in all, which I had given to the holder, the refuse left from a quantity that had been most carefully wintered in shallow boxes, and when planted all had stout single sprouts on them. From these the growths were remarkably strong, but not at all dense. Even though planted later than the general bulk, already the tops were fully 6 inches higher, and most were showing bloom. The allotment holder who had accepted these mixed tubers did not at the first think much of his present, but now the product affords him the greatest satisfaction, and presents to him an object lesson of great value. If all Potato growers, large and small, would but store their seed tubers in this better way, I feel assured that their crops would be fully 20 per cent. greater.—A.

— YORK GALA.—The show, which was opened on Wednesday morning, was the most magnificent that has ever been held under the auspices of this Society. In almost every section distinct signs of advancement were clearly perceptible, though the Pelargoniums were not so good as have previously been shown. The chief class was for a group of miscellaneous plants, arranged for effect in a space not exceeding 300 square feet. The first prize of £20 went to Mr. J. Wilson, gardener to Sir James Reckitt, Bart., who staged superbly, the second and third positions being occupied by Messrs. Mee and McIntyre respectively. There were eight competitors in this class. The number of Orchids was considerably higher, and the same may be said of the quality. Mr. J. Cypher was first for ten Orchids, and was also a successful competitor with specimen plants which were splendid. Though not quite so numerous as heretofore, Roses were charming. Messrs. Prior & Sons took premier honours in the classes for seventy-two and forty-eight, while Messrs. W. & H. Burch secured similar positions for thirty-six and twenty-four. Mr. J. McIndoe, Guisborough, was first in the classes for collections of ten, six, and four distinct kinds of fruits, staging grand examples in each case. Mr. Edmonds was second for ten, and Mr. Leadbetter second for six. The fruit throughout was of a very high order. Thus wires our representative. We hope to publish a full report in our next issue. The show continues open over Thursday and Friday, and if the weather prove fine will be visited and enjoyed by many thousands of persons.

— STREPTOCARPUS AT THE DRILL HALL.—In giving the list of awards of the Royal Horticultural Society in your last issue I am sure quite by mistake you did not mention the silver Flora medal awarded to me for *Streptocarpus*.—E. BECKETT. [We remember the superb plants staged by our correspondent, but according to our official list of awards no medal was recommended by the Floral Committee.]

— MR. W. LERRO.—We regret to announce the sudden death of Mr. William Lerro at Worthing, aged seventy-one. The manufacturer and the cottager are indebted to him for the invaluable, though small, but necessary tape measure. In addition to this he has been the benefactor to all gardeners. He invented a material for nailing Vines and creepers, which not only does not harbour insects, but is especially obnoxious to them. His "Medicated Garden Shreds" have deservedly been patronised from royalty to the village gardener.

— DEATH OF MR. O. CROMWELL.—It is with deep regret that I am writing you of the recent demise of Oliver Cromwell, second son of Mr. Benjamin Cromwell, the well-known and highly respected gardener to Thomas Sutton Timmis, Esq., of Cleveley, Allerton, Liverpool. The deceased was well known as a promising young man, employed in the Manager's Office, Central Station, Liverpool. He caught a chill on Saturday, which terminated fatally on the 3rd inst., and was interred on his twenty-first birthday.—P. C.

— "FILMY FERNS."—The interesting notes on these by "Filice" on page 507 brought to my mind a magnificent collection I had the pleasure of inspecting whilst in the West of England last autumn. At the residence of Captain Belfield, Malmaison, Frenchay, Bristol, is to be seen some of the finest specimens in the country. They are grown in a lean-to house with permanent shading, and the only visible means of obtaining air was through the open door leading from a large Palm stove. Under these conditions they were remarkably healthy, some of the plants being of immense size, reflecting credit on the gardener (Mr. Rye), who is well known in that locality as a good plant grower.—S., *Yorks*.

— THE SCENT OF FLOWERS.—One of the remarkable and often observed correlations between the scent of flowers and the animals who visit them is the development of the floral odour just at the time when the insects fly. Professor Kerner cites the example of certain species of Honeysuckle, Petunia, some Orchids and other plants which smell faintly or not at all in the daytime, but give off abundant odour between sunset and midnight, just when the insects fly which feed on them. Various Pinks and Pelargoniums, which are visited by small night moths, exhale a strong odour of Hyacinth at twilight, but give off no scent during the day. On the other hand, many flowers which are visited by bees and butterflies in the daytime become scentless at sunset, like the ornamental Clover, *Trifolium resupinatum*, which smells of honey in the sunshine and becomes scentless when the bees return to their hives in the night. The same is true of the Grass of Parnassus, and a species of Daphne, which grows in the Pyrenees and emits a delicate Violet odour during the day, but has no smell whatever after nightfall.—("Garden and Forest.")

— NEW CARNATIONS.—The new Malmaison Carnations raised by Martin R. Smith, Esq., in his garden at Hayes, Kent, comprising Lady Grimston, Trumpeter, Prime Minister, Lord Rosebery, and the pure white Nell Gwynne have passed into the hands of Mr. J. Douglas of Great Bookham, and will be distributed in the autumn of the present year.

— SHIRLEY GARDENERS' AND AMATEURS' ASSOCIATION.—The monthly meeting was held at the Parish Room, Shirley, Southampton, on the 15th inst., Mr. E. J. Wilcox presiding. "Rockery Plants" was the subject selected for the evening, and was most ably treated by Mr. Ernest Ladhams of the Shirley Nurseries, who read a very carefully prepared paper on this most interesting class of plants. He first told his audience how a rockery should be constructed and the best material to use for the purpose, saying that a rockery should be an imitation in miniature of a mountain, with its passes, gorges, and spurs, and should be planted in the same position they would occupy in Nature. An outing to Windsor Castle and Chelsea was arranged to take place on the 20th July.

— PAULOWNIA IMPERIALIS.—It may interest "W. E." to know that in 1840 I brought from the Jardin des Plantes, Paris, a young plant of Paulownia imperialis, which if I remember rightly found a home in Syon Gardens, Isleworth. Mr. Neumann, the *jardinier en chef*, showed me the original plant, which was then (1840) about 15 feet high, and told me that the authorities in Paris had received it from St. Petersburg. The Jardin des Plantes had from me in exchange *Seaforthia elegans*, at that time a rare Palm. If the Paulownia thrives at Syon it would now be one of the largest, if not the largest, in this country. It was common to pass off *Catalpa Kämpferi* for Paulownia imperialis, and in 1875 I was shown a stump of *Catalpa* in Kew Gardens, near the winter conservatory, which I was told had been sent in for Paulownia.—GEO. TATE.

— MR. HENSLOW'S LECTURE.—Mr. Henslow is one of those lecturers who always leaves his audience not only wiser than they were before he began, but he also keeps them fully interested. His recent lecture at the Drill Hall was most enjoyable, not the less so, indeed, that whilst the subject, the "Movements of Plants," was somewhat out of the all too beaten track, it was yet exceedingly lucid and comprehensible even to the most unlearned. If the lantern pictures were not perfect they were at least helpful, and enabled everyone present to follow the lecturer in his descriptive matter. Having told his audience so much with respect to plant movements it would be very acceptable if at some future time Mr. Henslow could go farther, and so far take his audience behind the mysteries of Nature as to explain the reasons for these movements. At present in many cases they seem to indicate some sort of intelligence in plants not fully comprehended.—D.

— RHODODENDRONS IN KENT.—This handsome early summer-flowering shrub does not flourish so freely in the chalky districts of Kent as it does on the outskirts of Manchester, the soil there appearing to suit it so well that every garden possesses plants, and the public parks are well supplied. The proximity of chalk to the surface of the soil accounts for the small number of Rhododendrons to be seen about Gravesend and similar districts. Between the latter place and Rochester they are found to flourish superbly in the woods owned by Lord Darnley of Cobham Hall. In one portion of these well-kept preserves huge bushes of Rhododendrons exist that flower abundantly every year. They form a very attractive feature, which hundreds of people journey to see from surrounding towns and villages at the end of May and early June, when the blooms are at their best. Special permission is given by Lord Darnley on two consecutive Sundays for anyone to view the display, also on several other days of the week. The horticulturist who wishes to see varieties of various colours and special merit would be disappointed from that point of view, but if he desire to see the plants growing luxuriantly in their own way, and forming dense masses of strong growths, the Rhododendrons at Cobham are a good sample. The secret of their doing so well lies in their making use of the ample material furnished by the annual decay of the leaves of the trees above and about them forming a rich deposit into which the roots have ramified. The prevailing colour of the flowers is purple, some of a deep hue, others paler. There are also some fine plants surrounding the Hall, and forming a portion of the boundary of the private grounds, but these have to be viewed from the footpath through the park. The park is very extensive and contains many fine trees, among which a herd of deer disport themselves. In one direction from the Hall lies the village of Cobham, where still exists the "Leather Bottel" of Dickens' fame. It has a Pickwick room. Near to Rochester there is Gad's Hill, Dickens' residence, with Sir John Falstaff Inn adjoining.—E. D. S.

— DAHLIAS AND VIOLAS.—Messrs. Dobbie & Co., seed growers and florists by Royal warrant to the Queen, Rothsay, obtained Her Majesty's permission to send to her at Balmoral specimens of the Dahlias and Violas which were so much admired by the Royal party at the Temple show of the Royal Horticultural Society. The flowers were duly sent, and the following acknowledgment has been received:—"Balmoral Castle, June 11th, 1896. Messrs. Dobbie & Co.,—I am commanded to thank you for the beautiful blooms of Dahlia and Viola which you have been good enough to send to the Queen. They arrived here in excellent condition, and were much admired by Her Majesty.—Yours faithfully, ARTHUR BIGGE."

— DATE PALMS.—One of the most important vegetable productions of Persia is the crop of Dates which are grown to great perfection in many parts of the country. The Date Palms begin to yield at about three years of age, reaching their prime at thirty, and a good yield for one tree is from 80 to 100 lbs. The flowers are fertilised by hand, one male tree supplying pollen for perhaps forty pistillate trees. The Dates used for export are those that grow at the summit of the trees. From the action of the sun they become hard and dry, and are thus easily packed, while those on the lower branches remain soft, and are kept for local consumption. The exports of Dates of the country could be easily doubled by planting fresh groves of Palm.

— RAILWAY STATION GARDENS.—Lady Bective takes considerable interest in the embellishment of railway stations and signal-boxes with flowers, and we learn from a contemporary that she recently sent to every railway station signal-box on the London and North-Western system between Garstang and Shap a large box of flowering and ornamental leaved plants, specially selected for the positions in which they will be grown. Early in the spring, as for several years past, her ladyship sent to the men employed in the signal-boxes, and also to the station masters along the line, collections of seeds of annual flowers. The beneficial results of this generosity are amply exemplified by the attractive displays which are annually produced in the gardens contiguous to the stations, and contribute greatly to the pleasure of travellers over the railway.

— WAKEFIELD PAXTON SOCIETY.—Meetings are held at the Paxton Room, Woolpacks Hotel, Corn Market, Westgate, each Saturday evening, at eight o'clock prompt. Programme of meetings for the second quarter of 1896:—June 20th, Wild Flower Exhibition; June 27th, "The Strawberry," Mr. Allison; July 4th, "A Chat on Botanical Science and Traditions," Mr. A. E. Benney, Bradford; July 11th, The Rose Exhibition, Mr. T. Wilson; July 18th, "The Flower Garden and Bedding-out at Bowling Park," Mr. J. W. Spencer; July 25th, The Pelargonium Exhibition, Mr. W. E. Corden; August 1st, "The Carnation and Picotee," Mr. G. Gill; August 8th, "Notes on the Rosaceæ Order of Plants," Mr. G. Bott; August 14th (Friday), "The Florist Auricula," Rev. F. D. Horner, Kirkby Lonsdale; August 22nd, "The Begonia," with specimens, Mr. W. H. Vere; August 29th, The Pea and Bean Exhibition, Mr. J. G. Brown.

— PERSIMMON.—This so-called Plum is in no way allied to the Plums and Damsons cultivated in England, which are rosaceous plants. On the contrary, Persimmon, known to botanists as *Diospyrus virginiana*, is a member of the order Ebenaceæ, which has no representative in the British flora, but includes the plants which yield the black wood called ebony. Of fruits familiar in England, the Olive is, perhaps, the nearest ally of the Date Plum, whilst the Privet, the Lilac, and the Ash are not distantly related to it. Persimmon is native in North America, where it grows wild in most of the Southern States, and produces fruit in abundance. The tree attains a height of 20 feet to 30 feet in the open, but 60 feet to 70 feet, with a diameter of 2 feet to 3 feet, when grown in a forest. It throws up suckers freely, and thus becomes difficult to eradicate. The flowers are usually pale yellow in colour, and the fruit stalk is very short. The fruit is almost globose in shape, and varies from half inch to 2 inches in diameter, according to the variety and the number of seeds contained, the seedless varieties being usually quite small. Though the fruit is disagreeably astringent when green or only partly ripe, this defect commonly disappears as the fruit becomes fully ripe. The date of ripening ranges from the beginning of August to December, but the early varieties have the greater market value, since they present the better appearance and have sold at from 6 dols. to 8 dols. a bushel in the large cities. Most of the old, wild varieties are full of large seeds, but in many of the newer strains the seeds have been reduced to two or three, and are sometimes improved away altogether. Whilst, moreover, some varieties are as sweet as Dates, others never become edible.—("Rural World.")

— LONDON'S OPEN SPACES.—These continue to receive the attention of the Executive of the Metropolitan Gardens Association. At the monthly meeting, held the other day, the Secretary reported that the laying out having been completed of the Friends' Burial Ground, Long Lane, S.E.; the Riverside Recreation Ground, Vicarage Road, Battersea; and St. John's Churchyard, Clerkenwell, these grounds had during the month been opened to the public by the Association, in conjunction with the local authorities, in whose care they had been placed for maintenance. He also stated that the London County Council had opened the Hilly Fields, S.E., a space of 45 acres, which had been acquired by the Council through the efforts of a joint Committee of Association and some other societies.

— A HANDY BOOK FOR TRAVELLERS —A capital little brochure entitled a "Tourists' Guide to the Continent," published under the authority of the Great Eastern Railway, and edited by that excellent authority on matters relating to travel, Mr. Percy Lindley, has just reached us. It is the seventeenth annual issue, and is a decided improvement on its predecessors. The editor's hope that the series of maps may be "found worth the money" can be taken as realised, for they are of great value and assistance. The chapter on "Dull Useful Information" is excellent, for it furnishes oftentimes uninteresting details regarding ways and means in a light and readable manner. There are particulars of tours in Belgium, Holland, Germany, and Switzerland, and also suggestions for cyclists on the Continent. The printing, paper, and illustrations are all good, and the price 6d. for a book containing 160 packed pages is remarkably low. It may be procured from the publisher, 30, Fleet Street, E.C., or at the Continental Department, Liverpool Street Station.

— A NOTABLE TREE —The Rev. David R. Williamson writes:—"During my recent holiday I visited, through the kindness of Mr. Constable, factor on the Traquair estates, the ancient house or palace of Traquair, once inhabited during their hunting expeditions by the kings of Scotland, such as David I. and William the Lion, and which dates back to the year 1088. There I was shown by Mr. Constable, who is greatly interested in arboriculture, a venerable and truly magnificent tree, manifestly a rare species of the Silver Fir, at least 70 feet in height, 17 feet in circumference, and 600 years old. Its vast boughs seem so many memories of the ages, and at its feet the silent spirits of the centuries repose. The surrounding scenery is exceedingly beautiful, reminding me instinctively of the finer parts of Perthshire. It has been made intensely classical by the old ballads of Scotland, but especially by the late Principal Shairp's deeply touching poem, one of the grandest in our literature, on the 'Bush Aboon Traquair,' which embodies all the romance and all the pathos of life.

— FRUIT FROM AUSTRALIA.—A consignment of choice Apples and Pears has recently arrived by the ss. "Orizaba," to the care of the Agent of the Government Department of Agriculture of Victoria, and have been exhibited for the last few days by Mr. J. B. Thomas, fruit broker, in the Floral Hall, Covent Garden Market. They have excited the admiration of buyers and representatives of the fruit trade generally. Among the varieties of Apples were Nickajacks, Callasago, Rokedove, and others. Amongst those better known in this country were Spitzenbergs, London Pippin, Prince Bismarck, Annie Elizabeth, Northern Spy, King of Tompkin's County, Strawberry Pippins, Monroe's Favourites, Wellingtons, Sturmers, Blenheim Orange, and Ribston Pippin. The quantity of each kind was considerably in excess of what is usually seen at such exhibitions, and the varieties were in every way equal to any seen in this country. The chief feature about the Apples was the brilliant colouring—evidence of the continual sunshine of the colonies. Packed in boxes the fruit had travelled in splendid condition, and was as hard and crisp as English fruit is usually seen in the autumn. We learned from Mr. J. M. Sinclair, the agent, that fifty-six varieties were sent over with a view to testing the carrying properties of the different kinds, after which the varieties, which arrived in the best condition, will be more widely planted in the colonies. Asked what he thought of the prospects of a trade in Apples between England and Australia, Mr. Sinclair was of the opinion that there is a great future before it, from the fact that the consignments from the Antipodes will arrive after the conclusion of the American trade, and before English fruit comes into the market. The quality and colour of the fruit on colonial soil is first-class, and when it has been seen which varieties arrive in the best condition the trade will no doubt increase. Pears were included in the consignment, but they are not considered so satisfactory as Apples, owing to the fact that they do not arrive in good condition. Persimmons have also been tried, but are a failure owing to the same reason.

— PEAS AND TURNIPS AT CHISWICK.—Several varieties of early Peas were inspected at Chiswick on Monday last. In consequence of the extreme heat and drought the dwarf varieties had not made sufficient growth to develop their qualities. Among the more promising of low growth were Sutton's May Queen and seedling Marrowfat. The best of the 3-feet high Peas eligible for honours was Sutton's Bountiful, with well-filled pods in great abundance, and three marks of merit were recorded. Some other varieties of promise were sent in too limited quantities for fair comparison with others, and were passed accordingly. Three marks were registered for Vilmorin's Half Long White Forcing Turnip—an early variety, with blunt Carrot-shaped "roots" of the first quality; also for the Early White and Early Purple Milan.

— THE SCARLET TRUMPET HONEYSUCKLE.—Riding through the mountain suburban towns the other day in several old gardens, says an American contemporary, we observed large bushes of this climber and also trellises heavily covered with it, its flowers standing out in vivid brilliance against the green foliage and neighbouring trees and shrubs. This Honeysuckle (*Lonicera sempervirens*) is a common wild plant in the thickets and margins of woods, and also it is collected in the wilds and cultivated in gardens, making a very decorative plant. On Long Island, however (and it grows wild in abundance there, too), it used to become so much infested with aphides in the spring and early summer that we got very little good of its blossoms; how delightful it is now to find it in its highland home in such flourishing condition, without insect or blemish. Down in our note book it goes for next autumn planting "*Lonicera sempervirens* and its variety *fuchsoides*," the latter is more showy than the type.

— HORTICULTURAL CLUB.—The usual monthly dinner and conversation took place on Tuesday evening last, when there was a good attendance of members. Messrs. F. W. Burbidge of Trinity College Botanic Gardens, Dublin, and Mr. Malcolm Dunn, Dalkeith Gardens, were the special guests of the Club on the occasion of their receiving the Veitch Memorial medal; Mons. Henri de Vilmorin, the other recipient of the medal, was unable to attend on account of domestic affliction. This was a great disappointment to him and to the members of the Club. The chair was occupied by Mr. Harry J. Veitch, and the health of the guests was proposed by the Secretary and the Chairman, and suitably acknowledged by both gentlemen. It was announced that the excursion would take place on July 30th. It would be into Buckinghamshire, and Mr. Leopold de Rothschild had kindly invited the members to lunch at his beautiful place—Ascott, near Leighton Buzzard; and Mr. Alfred de Rothschild has also invited them to visit his place and have tea and light refreshment there in the evening. Mr. Veitch has consented to superintend the arrangements.

— MESSRS. SUTTON & SONS' ANNUAL EXCURSION.—This renowned firm recently entertained their employes to the usual excursion which they have so generously provided for a great number of years. It is a pleasing feature that the partners and also their wives take part in these trips, and Monday last was no exception to the rule, Mr. and Mrs. Martin J. Sutton, Mr. and Mrs. Herbert Sutton, Mr. and Mrs. Arthur W. Sutton, and Mr. Leonard G. Sutton accompanying the train on both the out and in journeys, and doing everything they could, by their genial courtesy, to make those participating in the day's pleasure as happy as possible. A long special left Reading (G.W.R.) punctually at 7 A.M., and, running smoothly and quickly over the S.W.R. from Basingstoke, reached Portsmouth Harbour at 9.20, where the party, numbering 600 in all, alighted, and the majority at once proceeded to a special steamer which conveyed them direct to Ryde. As usual, the train and steamboat were provided by the firm, and also each employe was presented with an ample sum of money to meet the expenses of the day in the matter of refreshments, while each married man received an invitation for his wife. Thoughtful thoroughness in making the arrangements was also shown in the fact that by payment of a small charge those wishing to do so could return any day during the week, and also in securing railway concessions on the Isle of Wight Railway (the ordinary rates on which are so exceptionally dear), and cheap steamboat trips to Sandown, Shanklin, and Ventnor, and further obtained special permission from the Admiralty for the excursionists to visit H.M.S. "Inflexible," then lying in Portsmouth Harbour. By all, and perhaps particularly by those taking part in the last-named mode of spending a happy day, the excursion was most thoroughly enjoyed, for the day proved brilliantly fine from start to finish, and the arrangements were in every way admirable. The return train left Portsmouth Harbour at 7.30 P.M., and reached Reading with its happy and contented freight at 9.50.



ROSE SHOW FIXTURES IN 1896.

- June 18th (Thursday).—Colchester and Isle of Wight (Ryde).
 „ 23rd (Tuesday).—Langham Place, London, S.W.†
 „ 24th (Wednesday).—Reading (N.R.S.). Richmond (Surrey).
 „ 25th (Thursday).—Hereford, Southsea.*
 „ 27th (Saturday).—Canterbury and Windsor.
 „ 30th (Tuesday).—Maidstone and Sutton.
 July 1st (Wednesday).—Croydon, Ealing, Farnham, Farningham, and Leatherhead (Brockham Rose Association).
 „ 2nd (Thursday).—Bath, Eltham, and Norwich.
 „ 4th (Saturday).—Crystal Palace (N.R.S.)
 „ 7th (Tuesday).—Harrow, Wolverhampton.†
 „ 8th (Wednesday).—Canterbury (Hospital Fête), Chelmsford, Hitchin, Lee,* Newcastle-on-Tyne,† Redhill (Reigate), and Tunbridge Wells.
 „ 9th (Thursday).—Helensburgh, Woodbridge, and Worksop.
 „ 11th (Saturday).—New Brighton.
 „ 14th (Tuesday).—Westminster (R.H.S.).
 „ 15th (Wednesday).—Ulverston (N.R.S.)
 „ 16th (Thursday).—Halifax.
 „ 21st (Tuesday).—Tibshelf.
 „ 25th (Saturday).—Manchester.
 „ 29th (Wednesday).—Chesterfield.
 „ 30th (Thursday).—Trentham.
 Aug. 5th (Wednesday).—Chester.*
 „ 19th (Wednesday).—Shrewsbury.*

† A show lasting three days. * A show lasting two days.

Any dates not appearing in the present list I shall be glad to publish in the next one.—EDWARD MAWLEY, *Rosebank, Berkhamsted, Herts.*

BROCKHAM ROSE ASSOCIATION.

IN reference to the letter in your last issue about the Rose show to be held at Downside, Leatherhead, on the 1st July, the Committee invites competition in the All-England classes provided by the Society (for the first time in its history) this year for nurserymen and amateurs. Schedules can be had on application to Mr. Charles Cuthell, West Humble, Dorking.

SOUTHSEA ROSE SHOW.

MR. W. DROVER of Fareham, writes:—"I see in your list of Rose show fixtures that the above is to be held on June 27th. Please alter this, as it has been decided to have the exhibition 25th and 26th inst. As one of the Committee I hope to see professional Rose growers and gardeners, as well as the ladies, represented in the various classes. Exhibitors who wish for a two days' outing at Southsea will enjoy the flowers, the entertainments, the beautiful scenery, and the breezes on the South Parade Pier. For schedule of open classes and prizes apply to Mr. F. A. Winder, Hon. Secretary, Bristol Road, East Southsea."

NATIONAL ROSE SOCIETY'S SHOW AT READING.

IT is evident from Mr. Cheales' letter and from the information that has reached me from various quarters, that every effort will be made to insure a great success at this exhibition. The local magnates are exerting themselves for this purpose, and Mr. F. J. Ferguson, the Chairman of the Reading Horticultural Society, has invited the officials and the principal persons connected with the show to luncheon, and should the weather be fine there can be no doubt that it will equal any of the southern exhibitions already held, not excluding even the very successful one at Gloucester last year.

I know my good friend Mr. Cheales to have a poetic and, therefore, an imaginative turn of mind, but it would require a good deal of imagination I think to claim for Reading the title which has hitherto been claimed by Bath, "the Queen of the West," and I cannot see why a place situated in the home counties, and within thirty-six miles of London, should have such a title given to it. I have never heard it before, and I think my good friend must have evolved it out of his inner consciousness. It is impossible, of course, to conjecture as to the character of the flowers. Roses have had a trying time of it, and I should imagine that the earlier buds will come out badly. Now plants look flourishing. Here we had in the twenty-four hours, from Tuesday evening at eight o'clock to the same hour on Wednesday evening, 2.32 inches of rain; not a thundery rain, but one constant steady downpour, putting heart and life into everything, so I hope our eyes may be gladdened with fine flowers.—D., *Deal.*

READING ROSE SHOW—THE ABBEY CHAPTER HOUSE.

As the Rose show is to be held in the Abbey ruins, and as the Chairman of the Reading Horticultural Society has invited the N.R. Committee, judges, and many local friends to lunch in the grand old Chapter House, next door to the exhibition tents, a few lines on its past history may possibly be interesting. It must have been one of the finest in England 80 by 40, and rising up another 40 feet to its stone-vaulted roof. It is,

now a mere shell, only the flint core of the walls remaining, but a shell that is very substantial. The stalls of the monks, with their canopies, may still be traced along the walls. Mr. Ferguson's banquet will be almost an historical event, so many and so famous are the histories on which it follows. I am unaware of its record, since the ruin of the Abbey, except that it once contained a parish school, and now makes an excellent drill ground for policemen; but up to Henry VIII.'s time it was constantly figuring in English history.

Begun by Henry I. in 1120, 1164 saw the solemn dedication of the completed Abbey church when Henry II. came here, and doubtless held a court in this very chamber, ten bishops attending him, and at their head his, as yet, friendly archbishop. Here in 1184 Heraclius came with the keys of the Holy Sepulchre, which he handed over to Henry, conjuring him to rescue the Holy Land from Saladin. The king politely said he would consult his nobles about that; but the fiery Richard at once took the cross, and carried it certainly very far into the ranks of the Saracens. His exploits at Jaffa exceed those of any knight errant.

Before this, in 1140, Stephen had held here a parliament; he was very polite to the monks; whereas his cousin, the Empress Queen, when her turn came, and she arrived, rated them soundly for having helped her once too well loved and now much hated cousin. King Richard held a parliament here in 1191, John in 1241, Henry III. in 1263, and Richard II. in 1440; but of all festive occasions and banquets outdoing even the resources of modern science, that was Reading's greatest day, and the chapter house in particular, when Edward I. came here, with his captive king and stalwart sons, to attend the wedding of the fourth John of Gaunt with the Red Rose of Lancaster; by the way she was called Blanche, but that cannot be helped. This was in 1359, when a certain Mr. Geoffrey Chaucer rode over from his neighbouring Castle of Donnington and immortalised the scene in lines which have lived far beyond most other memories of the period, even as Shakespeare keeps best in memory for us, "Old John of Gaunt, time-honoured Lancaster." I am strictly limited in supplies of poetry, but possibly Mr. Chaucer's few remarks may find admission:—

"And the feste holden was in tentes,
 As to tell you my intent is,
 And dured three months the feast
 In one estate, and never ceased,
 From early, the rising of the sonne;
 Till the day spent was, and y-zonne;
 In jousting, dancing and lustiness,
 And all that served to gentillesse."

—A. C.

GROWING MIGNONETTE.

IN private establishments we seldom find Mignonette grown as standards—why I cannot conceive—as years ago, before Bouvardias furnished cut flowers during February and March, and other resources had to be relied on, Mignonette was the main feature in a greenhouse, either as a standard or otherwise, grown even to insure a few spikes for cut flowers. We appear to forget this useful class of plants, which, when well done, is certainly worthy of a place where cut flowers are in demand. No plant is deserving of more attention than Mignonette as a standard. As everyone is aware there are so many varieties in these days that it is rather a difficult problem to select the right one. Such varieties as Miles' Spiral, Golden Queen, and Garraway's White are the best. No time should be lost in procuring the seed, and sowing should take place at once, using for this purpose 2-inch pots. Place a few crocks at the bottom, covering them with moss, then three-quarters filling with a compost of three parts loam, one part leaf soil, and a smattering of old Mushroom bed refuse, passed through a $\frac{3}{4}$ -inch sieve, adding a little crushed oystershell and a good sprinkling of coarse silver sand.

Cover the seeds very lightly with finely sifted compost of cocoa-nut fibre refuse and sand, then take the pots and plunge in a cold frame placed under a north border. Water carefully until the seedlings appear, keeping the frame close. Afterwards give air gradually, and remove the lights during fine evenings. As soon as the seedlings commence growth top-dress with similar soil to the above. When fully established shift into 4-inch pots, using about the same compost as before, only a trifle rougher on the top of the drainage, applying a stake to each plant. Place the plants in a frame in the same position, using the syringe frequently in preference to over-watering, which is a great evil, until the plants are fully established. Sometimes before the desired length of stem—18 inches—is obtained, flower buds form at the point and side growths push from the joints below. The terminal buds, and all side shoots but the strongest near the point, are instantly removed, and the shoot trained upwards until the necessary height is attained. The growth is then topped for the production of side branches which are required to form the basis of the future head. The plants, as they make good growth, are transferred to 7-inch pots. The compost, consisting of three parts fibrous loam, one of leaf mould, a scattering of Mushroom bed manure, and sand, adding a little of Standen's manure. Pot firmly, and leave room for a further top-dressing about November. When these pots are fully rooted water with care.

During the winter months a little weak soot water occasionally will benefit the health of Mignonette considerably. Avoid too hot a temperature; about 50° to 60°, falling to about 45° during the winter months will suffice as the turn of the year arrives. Tying and stopping must be attended to, which, when well done, will repay for their extra trouble by a continuation of bloom.—A. E.

THE ROYAL GARDENERS' ORPHAN FUND.

HAVING consented to occupy the chair on June 18th at the anniversary dinner of the Royal Gardeners' Orphan Fund, I wish to appeal to all lovers of gardens and gardening to assist me in making the occasion a great financial benefit to the funds of this Institution. From my knowledge of the management of this Charity I can confidently speak of the excellent work it is doing amongst a deserving class, and of the economical way in which that work is carried out.

Nearly the entire income is available for the maintenance and education of the orphan children of gardeners until they attain the age of fourteen years. At present seventy children are being assisted by an allowance of 5s. per week, and the greatest possible care is taken in the selection of candidates for election, and in securing suitable supervision over their welfare during the time they are recipients of the Fund.

Except in very few instances the remuneration of gardeners is insufficient to enable them to make adequate provision for their families in the event of premature decease, and it is to aid such cases that this Fund has been established. — BEDFORD, *Woburn Abbey, May 30th, 1896.*

THE new President of this admirable Charity has placed its object, working, and claims for support so clearly that no words of ours could add weight to the appeal, and we can only express the hope, which we do most sincerely, that the annual dinner on the 18th inst. (the evening of our day of publication) will result in a substantial addition to the Funds of the Institution. We anticipate a large attendance on the occasion. Many of the leading growers of produce for Covent Garden Market, as well as salesmen and others, have always been well disposed towards the Royal Gardeners' Orphan Fund, and have given to it gratifying support. They will in all probability attend the dinner in considerable numbers, and may be relied on to contribute a full share to the success of the evening. We think the occasion appropriate for giving the portrait of the new President of the youngest of our gardening charities, and it is certain to be acceptable to the readers of the *Journal of Horticulture*, with brief references to the Duke and his noble predecessors.

Herbrand Arthur Russell, eleventh Duke of Bedford, was born in 1858, and succeeded to the title on the death of his brother, Duke Sackville, in 1893. Brief as is the period during which he has ruled over his great estates, abundant proof has been already given that His Grace possesses both the ability and the will to maintain the best traditions of a noble and historic family. Far-seeing, practical, and wishful to render help in times of difficulty, he has taken a prominent interest in the extension of technical education, a fact that was fully recognised recently by his unanimous election to the office of Chairman of the Bedfordshire County Council.

The establishment of the Woburn Experimental Fruit Farm, the first institution of its kind in England, has been due to his liberality. The Beds County Council School Farm, also at Ridgmont, commenced in the present year, owes its origin to his generous offer of some 200 acres of land, which, with a substantial farmhouse, since enlarged and adapted to the special purpose at the Duke's expense, completes a very interesting and useful institution. Extensive work has further been

undertaken in the park and on the estate, mainly with the object of finding useful work for the local labourers during the winter months; this, too, with liberal concessions to tenants, and general kindness and concern for the welfare of all on the estate, in which good work the Duchess of Bedford takes a prominent part, has raised them high in the respect and esteem of all who are more or less dependent upon them.

Most of the preceding Dukes have distinguished themselves in some special way, generally in connection with education, art, or literature; but John, the sixth Duke of Bedford, applied himself more particularly to horticulture, agriculture, and allied subjects. Wonderful collections of plants were formed at Woburn in those days, which have been described in several elaborate works; but perhaps most interesting in regard to this is the following passage from a letter addressed by Duke John to the late Sir William Jackson Hooker. "To botany," he wrote, "I am more indebted than it is possible for me to express.

From that pursuit, under the blessing of God, have mainly been derived to me the health of my body, the culture of my mind, my relaxation at home; my enjoyment in the fields; many of my most agreeable and honoured acquaintances; and several of my dearest friends."

The present Duke may be compelled to spread his energies over a wider field of labour, but all interested in horticulture must rejoice that his acceptance of the post of President of the Gardeners' Orphan Fund will bring such a nobleman more closely in touch with an art which combines so much that is pleasurable with practical utility of high importance. His Grace is a young man, and every horticulturist will wish him a long life in which to extend and see the results of work he has so well commenced.

We should, after all, like on our own account to plead the cause of the Royal Gardeners' Orphan Fund once more, as an institution than which none, however worthy, is more deserving of favourable consideration and support.

By the small amount of contribution entitling to a vote we had hoped that a much larger number of persons engaged in gardening would have placed themselves on the honoured roll of subscribers. We are aware that the majority of gardeners have many home claims, and that after these are met there can be but a small margin of means for supporting even such an excellent organisation as this Charity. Still we believe if the great need for its aid were fully known, and the benefits

it has conferred on fatherless children adequately appreciated, that ways and means would be found, individually or collectively, to enable it to meet practically all demands on its benefactions.

We suspect if its nature and objects were brought personally to the notice of the comparatively well-to-do who delight in gardening in various parts of the country, that they would be glad to give a measure of support to the Institution. Already it is affording the means of sustenance to between seventy and eighty children at an annual cost of nearly a thousand pounds—a fact which shows the urgent need that existed for its establishment, and as every year brings fresh calamities and new appeals for help, we bespeak the practical sympathy of all who can extend it on behalf of the widows and children of gardeners who are struggling with adversity. Let all who can then help them through the Royal Gardeners' Orphan Fund.



Bedford



SHEFFIELD CHRYSANTHEMUM SOCIETY.

THE above Society held its monthly meeting on Wednesday, June 10th. Mr. W. Hannah occupied the chair. The exhibits for the evening were Pelargoniums, but owing to the heavy rain only one plant was shown. Mr. C. Scott was the exhibitor.

Mr. John Haigh read a very interesting and instructive essay, entitled, "How Dame Nature Sows her Seeds." He briefly referred to the different methods used by Nature to perpetuate her species, such as seeds of the Thistle and Dandelion, being very light, are carried from place to place by the wind. Others, such as Burdock burrs and the Cleaver family are covered with fine spines, which stick to the coats of sheep, goats, and other animals. Some plants sow their own seeds. For instance, the Impatiens, as soon as the pods are ready for bursting the slightest touch will make them open with a spring, causing the seed to be thrown to some distance. Fruit seeds and berries are generally distributed by birds and animals. Attention was called to the length of time that seeds would remain dormant in the ground, and when brought to the surface under the influence of light, heat, and moisture will germinate after hundreds of years. As proof of this instances were quoted such as railway embankments and cuttings, where quite a different class of plants are to be seen, such as have not been seen in the same locality for generations in some instances. Animated discussion followed, and a hearty vote of thanks was accorded the essayist.—M. H. W.

CERTIFICATED CHRYSANTHEMUMS IN AUSTRALIA.

AFTER the experience of the past season I am inclined to think that Colonial seedlings will not be long before they will have to be taken into account by those home growers who desire to keep abreast with the times. At the N.C.S. Floral meetings last autumn, we had several very fine examples of new Chrysanthemums introduced from Australia, the best, perhaps, being *Australie*, *Oceana*, and *Pride of Madford*, although others were at that time in the hands of the trade and may be seen in good form during the Jubilee year.

About this time last year I gave in the *Journal of Horticulture* a list of novelties that had received certificates at the Sydney show, and it may be useful, so far as possible, to continue the information. The following is, then, a list of those varieties which were certificated at the Sydney show last April:—

Wallaroo.—A large, rosy lilac Japanese, exhibited by Mr. S. B. Levick.

J. R. Upton.—A bloom of similar habit, colour bright golden yellow, staged by Mrs. J. Upton.

Mrs. J. Upton.—A lilac incurved Japanese of great size and depth, shown by the lady whose name it bears.

R. Forsyth.—A dark lilac incurved Japanese of great size, staged by Mr. T. W. Gates.

THE SYDNEY (N.S.W.) CHRYSANTHEMUM SHOW.

The Australian mail just to hand brings a bundle of newspapers containing the somewhat lengthy account of the New South Wales Horticultural Society's recent Chrysanthemum show. The show was held at the Oddfellows' Temple, Elizabeth Street, Sydney, on the 22nd April, and was opened by Lady Hampden. The "Sydney Daily Telegraph" says:—

"Compared with previous years, the exhibits are fewer in number, but better in quality. The slight falling off in number is due largely to the death of Mr. Von der Heyde, in consequence of which his gardener, Mr. G. Kerslake has not sent in the very large number of blooms he had intended. Mr. Kerslake would have been one of the largest exhibitors. The quality of the blooms still shows steady advance, and the season having been a good one very fine form and great purity of colour are characteristic of the leading exhibits, especially in the Japanese varieties. A gratifying feature is the increase in the number of country exhibits, which practically began to come in last year, and is indicative both of the spread of the cult in the country districts and the fact that growers out of the metropolitan area are attaining skill and consequent success, which is bringing them up to show standards. Mr. Mann of Mittagong, was the most successful of the country exhibitors. There are some remarkably fine seedlings shown, and it is evident that our growers will soon have some specially good native varieties. The old gold and salmon incurved Jap., Mrs. J. H. Horton (grown by Mr. J. H. Horton), which attracted much attention last year, fully maintains its quality, and of seedlings first shown this year a considerable number were submitted to the Floral Committee.

"Amongst comparatively new imported varieties *The Queen*, a pure white incurved Jap., of lovely colour, which was so much admired at previous shows, again came in for general admiration.

"Amongst the competitive exhibits those of Messrs. A. Lee, R. Forsyth, J. Upton, and J. A. Shaw were particularly noticeable. The intercolonial element was supplied by Mr. Bidencope, a well-known Tasmanian grower, who showed some very fine blooms."—P.

BRITISH FERNS.

AT a recent meeting of the National Amateur Gardeners' Society held at the Memorial Hall, Farringdon Street, Mr. George Gordon, one of the Vice-Presidents, gave an interesting lecture on British Ferns, with special reference to their cultivation in gardens of limited dimensions. Mr. T. W. Sanders, President, occupied the chair, and there was a large attendance of members, and an extensive exhibition of British Ferns, Mr. Vokes of Southampton, Mr. Leonard Brown, Mr. Sinclair, and Mr. Harrison staging collections of splendidly developed specimens.

Mr. Gordon, in his opening remarks, said he did not intend in the comparatively short space of time at his disposal, to speak of the life-history of Ferns, or discuss the marvellous processes by which their multiplication is effected, and new and beautiful forms created. He should, in compliance with the request that had been made to him, confine himself to their cultivation, in which, he was pleased to learn, the members were much interested. He was glad of this, because it justified the hope that the Ferns indigenous to the United Kingdom would at no distant date receive the attention from the general body of amateurs they so well merited, and that some at least of the many beautiful forms of the principal species would be represented in all gardens where beauty of form, as well as attractive colours, were appreciated. He should not attempt to exalt the native Ferns at the expense of those from other parts of the world, or indeed at that of other classes of plants; but he would claim for them that they would afford unbounded pleasure to those who gave them the attention necessary to the full development of their manifold charms. Upon this point he could speak from experience. It was now many years since he turned his attention to British Ferns, and although he had not made a fad of them to the exclusion of other plants, he had from the first grown a representative collection, and had annually obtained from it many useful object lessons in plant life and an immense amount of pleasure. The enjoyment he had derived from the culture of British Ferns was within the reach of the humblest amateur, for the possession of a large collection or rare forms was not essential.

The cultivation of British Ferns had not during the past thirty years extended so rapidly as could have been desired, and for this there could hardly be any doubt the Fern specialists were in the main responsible. From thirty to forty years ago there was almost, if not quite, a mania for British Ferns, and a brisk demand sprang up for the forms of the principal species. To satisfy this demand plants were raised in large numbers from spores, and seedlings showing a slight difference in the size and form of the frond, no matter whether the difference contributed to or detracted from the beauty of the plant, were distributed under long, cumbrous, and unpronounceable names. In time cultivators grew tired of adding varieties showing trifling variations to their collection, and also of the frightful names inflicted upon them. He had no sympathy with those who objected to scientific names of all kinds, but in the case of varietal forms of British Ferns, as of other plants, the names should be simple and appropriate. Happily, there had of late years been a change for the better; raisers had recognised the importance of new varieties possessing both distinctness and beauty, and that cumbrous names are not desirable.

There were, it was pointed out, several ways of commencing the cultivation of British Ferns. If the cultivator is satisfied with the specific forms, and has access to woodlands and hedgerows where Ferns are abundant, he can make a beginning by transferring the requisite number of plants from their native haunts to his garden; if he has no such access it will be open to him to purchase the plants from a nursery or the coster's barrow. But no one should, except in one or two instances, be satisfied with the species, with such a wealth of beautiful forms. The Male Fern, the Lady Fern, and Broad Fern, and the Hart's Tongue, when growing luxuriantly in great masses, as they may be seen in Devonshire, Somerset, Cumberland, Yorkshire, and some other counties that were mentioned, were singularly beautiful; but their places are the woodland, the hedgerow, and the shady lane, and not the garden. Especially was it desirable that those who had but little space in which to indulge their taste for plant culture should take advantage of the most beautiful forms Nature had provided for the embellishment of their gardens.

The practice which obtains of purchasing Ferns that have been dug up after they have commenced to make new growth and hawked about the streets was very strongly condemned. In the first place, plants that had been so dealt with seldom survived even with the greatest care, and in the second place, those who bought the plants assisted and encouraged those who were engaged in stripping some of the most beautiful parts of one of their greatest charms. Few, said Mr. Gordon, had an adequate idea of the rate at which the country is being despoiled of its beauty for the purpose of supplying the demand for Fern roots during the spring months, and he earnestly hoped that all who were in any way interested in the rural aspects of the country would do their best to discourage this vandalism. Some objection to the practice would be removed if the plants were utilised in beautifying town gardens, but of the thousands that were annually sold not more than 5 per cent. survived.

The proper, and indeed the only course that should be taken in beginning Fern culture was to purchase nicely established plants from a nursery in which a representative collection is grown. The varieties of the several species were stated to be so numerous, and to evince so great a diversity in character, as to afford a wide range for selection. To show the wonderful variation of the British Ferns, it was mentioned that Mr. E. J. Lowe described, in his small work, entitled "British

Ferns," 1859 varieties, of which thirty-four were forms of *Adiantum capillus-Veneris*, sixteen of *Asplenium adiantum nigrum*, 313 of *Athyrium filix-fœmina*, seventy-five of *Polypodium vulgare*, 394 of *Polystichum angulare*, thirty-four of *A. aculeatum*, and 450 of *Scolopendrium vulgare*. The diversity of character afforded by the varieties was shown by specimens of about fifty of the finest forms brought by the lecturer to illustrate his remarks. It was, of course, not necessary the cultivator should commence with any considerable proportion of the immense number of varieties. So far from this being the case, he advised the beginner to be satisfied with a few only at the first, and to increase his collection as opportunities offered.

He suggested the following as comprising the best for forming the nucleus of a collection:—Of the varieties of the Lady Fern (*Athyrium filix-fœmina*): *Applebyanum*, *corymbiferum*, *cruciato-cristatum*, *curtum multifidum*, *Elworthi*, *Frizellæ cristatum*, *glomeratum*, *plumosum*, *plumosum multifidum*, *plumosum elegans*, *ramo-cristatum*, *setigerum*, *Vernoniæ* and *Victoriæ*. Of the Broad Buckler Fern (*Lastrea dilatata*): *crispato-cristata*, *foliosa-digitata*, and *grandiceps*. Of the forms of the Male Fern (*Lastrea filix-mas*): *Bollandiæ*, *digitato-Jonesi*, *fluctosa*, and *grandiceps*; *cristata* and *grandiceps* of the forms of *L. propinqua*, and *cristata angustata*, *cristatum* and *ramo-cristata* of the forms of *L. pseudomas*. Of the varieties of the common Polypody (*Polypodium vulgare*), *bifido-cristatum*, *Cambricum*, *trichomanoides*, *cristatum*, *grandiceps*, *pulcherrimum*, and *semilacerum*. Of the forms of the Prickly Shield Fern (*Polystichum angulare*): *Bayliæ*, *cristato-Jonesi*, *divisilobum plumosum*, *folioso-multifidum*, *grandiceps*, *remoto-decurrens*, and *tripinnatum elegans*. Of the forms of the Hart's-tongue (*Scolopendrium vulgare*), *conglomeratum*, *crispum*, *crispum majus*, *crispum Stableræ*, *cristatum*, *cristulatum*, *digitatum majus*, *grandiceps*, *laceratum*, and *ramo-marginatum*.

The cultivator who had made considerable progress with British Ferns would not be satisfied with the varieties of the species he had mentioned, but would include in his collection the various Spleenworts, the Hard Ferns, or *Blechnums*, and the Bladder Ferns, or *Cystopteris*, of which there were many beautiful forms, and the Oak, the Beech, and Royal Ferns, the last named being especially useful for planting in moist positions.

Proceeding to speak of the cultural requirements of British Ferns, it was pointed out that the *Athyria*, *Lastreas*, *Polystichums* and *Scolopendriums* thrive in any good garden soil, and that the *Polypodiums* make the most satisfactory growth in peat. When the soil is close in texture a liberal addition of grit, decayed vegetable refuse, and charred rubbish would be advantageous; but maiden loam, so frequently recommended for Ferns to be grown in the open, was an expensive luxury that could well be dispensed with. An ideal position for Ferns in the open was said to be a border on the north side of a wall, fence, or hedge, where the Ferns would be screened from the direct rays of the sun, and not be exposed to sharp currents of air. It was strongly advised that when Ferns are planted above the level the mound or bank should be of sufficient depth to contain a good body of soil, so that it may not dry so quickly as to expose the plants to the risk of injury from a few days drought.

With reference to the formation of rockeries for Ferns, it was suggested that the best results would be obtained by forming an irregular bank of soil of the desired length and depth, and then with burrs, tufa, sandstone, or other available material, arrange a series of ledges and plant the Ferns in their positions. When this is done it was pointed out the soil, plants, and rockwork sink together. It would, after a little practice, be found a simple matter to so arrange the material used for facing the bank as to give it much the aspect of a natural rockery, and prevent the water running away down the slope instead of soaking into the ground. One of the most important points in the cultivation of British Ferns in the open was to keep them well supplied with water during periods of dry weather early in the season. Speaking generally, overhead sprinklings were described as of but little value as compared with copious root waterings. It was advised that while the soil must not be maintained in a saturated state sufficient water should be applied to thoroughly moisten it to the depth to which the roots have extended.

The cultivation of British Ferns in pots was lightly touched upon, and it was suggested that by the aid of a good selection many greenhouses and conservatories occupying shaded positions in town gardens, and now bare and desolate, might be converted into a veritable Fern paradise. The essential conditions of success were said to be well-drained pots, a substantial compost, careful watering, and shade during bright weather. With reference to the compost, one consisting of turfy peat and liberal proportions of leaf mould and sand was recommended for the *Polypodiums* and *Spleenworts*, and for the *Athyrias*, *Lastreas*, *Polystichums*, and *Scolopendriums* a compost consisting of turfy loam, leaf mould, powdery cow manure, and coarse silver sand was advised.

The importance of moistening the whole of the soil at each watering was insisted upon, and it was pointed out that when the plants are at rest the soil must be maintained in a moderately moist state, for when, as so frequently happens, the soil is allowed to become dust dry, and remain so for any considerable period, the plants are greatly injured, if not killed. Repotting in spring was advised, but it was pointed out that annual repottings were not necessary, as the plants would be maintained in the most vigorous condition for several years without disturbance at the roots, by assisting them with weak liquid manure—that prepared by steeping cow manure in water and used in a highly diluted state being recommended as the best.

At the close of the lecture hearty votes of thanks were accorded the Chairman and Mr. Gordon.

THE DROUGHT.

WHEN the woes of the farmer and the gardener of every class becomes the theme of regret in the ordinary Press, then must these woes be great indeed. It is too much to be feared that few outside the ranks of those actually engaged in the working of the soil fully realise how great are the troubles which arise from variations of climate, such as we have seen in the drought, and may in a short time see in totally diverse and not less adverse conditions. The woes of agriculture may be many, those of gardening are no fewer, but the gardener, by his deep and more scientific, or shall I say sensible, culture, accomplishes far more in the effort to mitigate them than does the farmer, whose land is but shallow worked, and has in it rather a minimum than a maximum of plant food.

Not fifty State Relief Acts can mitigate the effects of adverse seasons, whilst the best of relief, found in deeper culture and higher soil feeding, is not likely to be helped by Relief Acts that rather tend to put a premium on inaction. Nature is said to be great in averages. If that be so, then there will be a very wet time some day, when we may find the rainfall so continuous as to be in that way as much a disaster as the drought. When we remember the exceedingly long spell of heat and drought experienced last year; broken almost only by some most welcome but not lengthened rains in the autumn; the comparatively dry weather of the winter, though so mild and altogether so open; and, farther, the long-continued dryness of an almost unprecedented kind experienced so far this spring, we may well express wonder that vegetation has endured so admirably as it has. Still farther may we speculate as to the amount of rain really due to us if Nature's averages are to be made good.

A thoroughly wet winter, not at all a desirable time, seems to be needed to set things right, and if it does not soon come it is to be feared that a third dry year may break down soil cultivation altogether. If it needs all the resources of an abundant water supply and much extra labour to keep crops in a growing state where such luxuries are to be had, what must be the difficulties under which those cultivators of every class labour who have no such resources, and with even a moderate water supply, can utilise none except through the primitive water pot? Probably there is no description of labour in gardens so onerous as is that created by the free use of the water pot.

Nurserymen have found in the spring drought grave troubles arising from the necessities of late transplanting. Evergreens especially have very much suffered, and even though occasionally watered, for systematic soakings would have been impossible; yet because of root disruption it has not been found possible to keep the leafage full of sap, the aridity of the atmosphere having proved so absorbent. How much all this shows the great need there is for such a condition of things in soil culture as that we may be independent of Nature's eccentricities in relation to water supplies. Those who have a constant supply through a water company, or where steam or other agencies lift water in plenty, to a large extent are independent of Nature; but then relatively these are the few, and chiefly the gardens of the wealthy. But in the fields, where grass, corn, roots and hops are produced, or in market and private gardens and allotments, where all descriptions of vegetables are grown, there are practically no such resources, indeed in all these cases the chief dependence has to be placed on deeply worked soil; for where that is not found the case of the crops is bad indeed.

How strange it seems, yet how illustrative of our wasteful practices, that whilst the very soil seems to cry aloud, as if in pain, and thirst for water, we are just now pouring millions of gallons of water in the form of sewage into the sea, whilst could it be utilised for soaking or irrigating all sorts of crops it would be found to return in produce to the nation greatly needed wealth. How wonderfully efficacious would sewage applications have proved to fruit trees, bushes, and Strawberry plants during the past month. The drought has been largely productive of the serious thinning of fruits, for since the original setting these have fallen so much as to change what was once great promise of a crop into comparative thinness.

Dryness at the roots has greatly helped insect development and injury, because the growth of wood and leafage was weakened through lack of root moisture. There is a little indication that a change to moisture is imminent, but the indication so far is not of a permanent or general kind. It is rather local and partial. That may be some gain, but whilst no one wants to see a wet summer, it is certain that all working the soil do desire a thorough saturation, so as to enable crops to fully develop, and in the end bring back some return for all the cost and labour expended in their primary production.—A. D.

P.S.—I had just written the above when rain began to fall, and during some eighteen hours we had a delightful moistening that was most welcome. Still there was not much of rain after all, as owing to the exceedingly parched condition of the ground not only was the moisture quickly absorbed, and even converted into vapour, but at the most it did not penetrate more than 2 inches. As evidence of the nature of the soil beneath I may mention that on the day after the rainfall I observed in a field where Potatoes were being earthed by a plough that the operation created quite a cloud of dust. With since considerable sun heat I fear, unless other rains follow speedily, the good effects of the rain of the 10th will soon disappear, and the soil will be as dry as ever.

Where roots were too deep in the ground to find benefit from the moisture, no doubt at least for a short time foliage materially benefited, as the previous arid condition of the atmosphere, combined with the hotness of the soil, was exceedingly trying for vegetation. There can be no doubt but that frequent dampings of the leafage of plants during

root drought, whether supplied in the form of night dews or artificially, is most helpful and refreshing, the obvious inference being that plants can in that way absorb moisture advantageously. Of course no such small aids are so efficacious as are thorough ground soakings, such as good rains or waterings furnish. It is to be hoped that more good though gentle rains may soon fall.—A. D.

EARLY STRAWBERRIES.

SEEING a paragraph in the Journal about early Strawberries, I thought it might interest some of your numerous readers to know that we gathered some fine fruit of Royal Sovereign on a south border on May 29th. The runners were layered into 60's, and planted out last August, and are now fine large plants with a good crop of fruit.—A. BRADDY, *Colchester*.

I HAVE forwarded to you per rail to-day (June 8th) a box containing three punnets of Strawberries. The varieties are John Ruskin, Noble, and Royal Sovereign, from maiden plants grown on a border in the open air. They have not received any protection, neither have they been watered during the late severe drought, otherwise they might have been larger.

During the past forty-eight hours heavy thunder showers have prevailed, $1\frac{1}{4}$ inch rainfall being registered; this has done a great amount of good to the growing crops. The Strawberries, I fear, have somewhat deteriorated in flavour. I should, however, like your opinion of them as compared with Mr. Cannell's "earliest on record." I do not consider a solitary fruit of any variety is sufficient to stamp it as the "finest fruiting kind we possess," more particularly when such standard varieties as those I have sent you may be gathered from outdoor grown plants nearly 200 miles north of Swanley. Specimens of these were ripe on May 31st, earlier than I have before known them.

The mild winter and exceptionally open spring is doubtless the cause of the forwardness of crops so far north. Stevens' Wonder, grown on the same border under similar conditions, will be ten days or a fortnight later. It is a light cropper, and the fruit will be small, this is also our experience of it when forced. What have others to say as to the behaviour of this variety when forced? I consider Royal Sovereign a great acquisition. In growth, shape of fruit, and in flavour it reminds one of British Queen, but being an early variety is to be preferred to any other. I predict a great future for this Strawberry. It forces well, but is impatient of too much heat in the early stages of its growth. It is also subject to mildew, which may be kept in check if the plants are well sulphured two or three times during their growing season. Plants in the open air are quite free of mildew.—GEO. SUMMERS, *Sandbeck Park, Yorks*.

[The Strawberries sent were all excellent examples, the fruits of Noble being of much superior flavour than is usually the case with this variety.]

JOTTINGS.

Early Strawberries.—"H. C.'s" early record is not "up to date." "K., *Dublin*" (page 511), says, "A grower picked his first basket on May 28th." I picked several ripe fruits on May 16th, and began to send to market on the 20th. Variety, J. Ruskin mostly, and a few Nobles. I consider John Ruskin a very good early fruit, medium size, bright colour, great bearer, and a good grower.

Royal Sovereign Strawberry.—Will any grower of this variety give us the relative dates of picking this compared with Nobles?

Tomato Troubles (page 515).—Yes, various and numerous are these, and very perplexing even to old and expert growers. Most, if not all, seem to have a fungoid form of origin, and it is very doubtful to me if many of the so-called remedies are of any good. A good deal was published on this subject last year, and I for one was, and am, much indebted to you for the information gleaned therefrom, and note with pleasure on page 526 that there is "more to follow." May it come soon to further enlighten us, as some recommend one thing and some another. All very easy to advise, but let us see the results. Even some of our experts are dumb when failures have to be recorded. We hear nothing about failures only under the cover of initials in the correspondents' column of "our" Journal, where, by the way, much may be learned. Don't miss this part of the Journal.

What has "W. I." to say about his dose of 10 ozs. per square rod of sulphate of iron? How has it acted? Strong, hard, disease-resisting plants, have they been secured by the use of chemicals? Has the breed of the "animal" (save the word) anything to do with "his" constitution? If so, which sorts are the hardiest? Did "J. B. R." try the sulphate of iron remedy, and with what result? What about the disease-resisting qualities of Chemin Rouge, Mr. "J. B. R.?"

What about McDougall's anti-mildew powder, Bordeaux mixture, Fostite, Jeyes' fluid or Creolin, or Little's phenyle? Are any of these all that is claimed for them to be? Is not their use as remedial measures almost out of the question, and as likely to be fatal to the plant as well as the disease? Again, I should like to draw out "W. I.'s" opinion of phenyle after use last season; also, I presume, he tried anti-blight, &c., &c., from his communications to your paper.

Mr. G. Abbey from time to time very fully placed the life history of these fungoid diseases before us in the Journal, and from his able articles and hints I have made several trials, and noted all the different stages through which the plants affected pass. And after all these are the conclusions I have arrived at—viz., that all their diseases are of fungoid growth, and the most prevalent during hot spell of weather; therefore the great variation of temperature may at least be responsible for the encouragement of, if not the actual origin of most of these diseases.

The only remedy is a good dressing of quicklime to the soil. Try and kill the germs of the spores; outward appliances of anti-blight and other powders are useless to the plants, except as preventives; the disease is inside not outside, therefore must be applied to the little mouths of the roots, and not upon the leaves, and control the growth to hard and firm wood by confined root run, planting them in very firm borders, the harder the better.—P. O.

IRIS ROBINSONIANA.

LIKE many members of the family the flowers of this Iris are of short duration, lasting about a day, but the succession produced maintains the interest over a comparatively long period. I. Robinsoniana is a native of Lord Howe's Island, where it is said to be sparingly represented. The leaves attain to 6 feet and more in length, and 4 inches in diameter, while the scapes are about 8 feet in height. The flowers (fig. 98) are 4 inches in diameter with spreading divisions, the outer ovate $1\frac{1}{2}$ inch, and the inner a little over an inch across. They are with the small stigmas pure white, with the exception of a small crescent-shaped bright orange blotch at the base of each of the outer divisions, and it can be understood why the popular term "Wedding Flower" has been applied to it. The plant is extremely ornamental for its foliage alone, but if the secret can be discovered of flowering it more frequently it would become a great favourite where sufficient accommodation could be afforded. The specific title was bestowed in honour of Sir Hercules Robinson.

YOUNG GARDENERS.

THEIR HOURS AND HABITATIONS.

YOUR correspondent "Another Subordinate" expresses regret that he did not make his meaning quite so plain as he would have wished, but surely if he did not intend to convey such a meaning he did not carefully read over what he had written, for no one could have put but one construction on the paragraph in reference to the granting of holidays and evenings to young gardeners. Undoubtedly it is well known, unfortunately too well known, that there are but few gardens in which there is no necessity for some overtime to be done to cope with pressing work in spring, but usually this is limited to light work such as Grape-thinning or training of Peaches, labour that does not tax or exhaust the energies of the workman; and certainly if "Another Subordinate" cannot undertake this in times of pressure he ought to relinquish garden work altogether. "Another Subordinate" gives a ready answer to a misquoted query. I did not suggest that young men would not be better off in having a good bothy and the necessary domestic arrangements, but I do repeat that gardeners have not always the means of studying the young men's conveniences in the bothy, and unless these are provided by the employer it certainly cannot be expected that the gardener can do so out of his own pocket. There are many instances where the bothy men are working under equal or even better circumstances than their chief, and there is a remote possibility that this may be so in "Subordinate's" case.

I have noticed, too, that where they are studied in matters pertaining to the bothy, it is not appreciated as it should be. I have had but one young man that I can name who valued a good bothy, attended to by a woman every day, and yet others have had the same privileges without accounting them anything more than common necessity. It is clearly as much the duty of the subordinate to study his own work, in whatever department he may be engaged, the rules of the garden, and the chief under whom he acts, as for the gardener to study the young men, their comforts and pleasures; and if young men act simply as machines, doing no more than necessity compels them, how can they reasonably expect any exertion to be made on their behalf by the gardener?

In his concluding paragraph "Another Subordinate" asks me who is to look after the comforts of young men if head gardeners are not going to do so. My reply is that if young men studied their own interests, and that of the gardener under whom they may be acting, he would be an ungrateful man that would stoop to such a level as to withhold the common necessities of bothy life. But, I fear at the same time that the craze for pleasure seeking is fatal to the unanimity of good feeling between man and man. I have always aimed to be generous to a limit towards my young men, and this has on many occasions led to my being imposed upon, and when remonstrance becomes a necessity then young men, some of them, think they are severely dealt with. I am writing strictly from my own experience, and have the advantage over your correspondent in being able to view the grievance from both sides.

Perhaps when, if ever he should, rise to the position of commanding a garden wherein a bothy exists for the young men, he will have occasion to study their benefit on a scale which he himself suggests, but before he does so he will probably have to consult his employer. I have had to do this, and have not always received the reply I had hoped for.—WILTSHIRE GARDENER.

AS there has now been something said, and ably said, upon this question, according to the different views taken of it, I should like to again approach it as far as possible from neutral ground. The task is not an easy one. Far easier is it to ventilate one's opinion, be that *pro* or *con.*, than to eliminate personal feeling, tending, perhaps, to bias either way, and view things as they are, not as they seem. Here I may be allowed to acknowledge the force of "G. H. H.'s" gently persuasive pen, almost tempting me to strike off into the anecdotal, which he was good enough to say would prove interesting. Whilst venturing to think that this might be the case, and not wholly irrelevant to the subject under discussion, the temptation must at present be resisted. He—"G. H. H."—concluded from a previous article that I am in favour of the Saturday half-holiday. That is so; and whatever thoughts are expressed here upon the matter let it please be borne in mind that it is so still.

We may well pause on the threshold of this broad, if not momentous, question to examine its principle, for even an unsound principle may have an unassailable motive. It is, of course, the "hours," and not the "habitations" here alluded to. The latter may be dismissed, for where unanimity reigns argument enters not. The principle involved is one so far reaching that any foreshortening to the sole objective we have in view—young gardeners—must bar the way to its favourable consideration. This phase has been shown before; yet must it, I feel, never be lost sight of. Taking it for granted that the balance of opinion admits this to be the case, then we have, whilst enlarging the question, a broader basis to build upon, and consequently a distribution of force not conducive to more immediate results. Yet it appears to me to be the soundest principle of construction, yielding the greatest good to the greatest number. In many places—demesnes or estates—so comprehensive a view may lead to a postponement of the matter, whereas if gardeners' claims are alone brought forward the invidious comparisons arising from this treatment may do worse, resulting in either its total abandonment or, if initiated, ultimate failure.

From a gardener's point of view solely the endeavour may be made to see the prospective good derivable from such important concessions, supposing that these were more or less generally obtained. Allowing that our young men will be better off, it is but reasonable to suppose that eventually, if indirectly, gardening itself will be benefited; but will this be the case, and what conditions of life have produced the best men? Biographical sketches of our prominent gardeners point plainly, as a rule, to a severely practical schooling, to hardships endured in early life, to difficulties overcome by persistent perseverance, in short, by that burning love of the work which cannot be quenched by a deluge of disagreeables, to a drilling which has had the dual result of placing the best men in the front rank, and of weeding out the weaker brethren who could not stand fire.

We cannot but note the present overcrowded state of the profession, and relevant to this phase may conclude that any inducements to augment the evil are, at least, undesirable. We know that the liberty afforded by the Saturday half-holiday in a well-managed garden will be but a privilege previously earned or a debt to be quickly cleared off where arrears of work are not tolerated; yet more youthful eyes may overlook this; it may but serve as a lure for some of our boys to mistake their vocation in life and add to the congestion. Unpleasant as this view of the matter may be, who will say, after all is said, but that the régime of those old Spartan chiefs we—old boys—served under in a state of bondage was not a capable method of developing whatever latent good we were possessed of? To illustrate this a personal reminiscence may be given. In a certain garden the "habitation" was good, but the "hours" were long and grinding, and certainly any sympathy the "head" had for his young "hands" was effectually hidden under the bushel of reserve. Within a short period two lads, at least, summarily escaped from the yoke, were frightened from gardening for good and all, one eventually becoming a china merchant, the other a tobacconist (successful, I hope). Another came on a Saturday night, heard some tales told by the bothy ingle nook, and by Monday morning was *non est*, probably gardening knew him no more. Of the many who came and went on very short notices I need not descant, but

of the comparative few who came and put their shoulders to the wheel more pleasant reflections result. That garden was called a "killing place," but it killed nobody. Our chief was termed a "Tartar," even worse, but he proved a friend to those lads with "grit."

Now, in this recent, and I will not say unreasonable, agitation there are probably some few old boys, like myself, who momentarily feel that they were born too soon, yet, on reflection, I do not know that it is so. We know how quickly the bothy bondage passed away, and passed away for ever. We survived it. Youth is wonderfully elastic, and not easily crushed; but I am sure the martial discipline was never meant to crush, it was intended for our good; and to conclude this phase of the question I must confess that possible benefits to gardening through concessions to young gardeners are not, to me, clearly defined; it is a point upon which difference of opinion will arise, but such opinion will, I trust, be derived from a comprehensive view neither limited to time or place. That young men should have leisure for study and for recreation all must admit, but I have yet to see the "habitation" so bad or the "hours" so harassing as to preclude a youth of energy from the former and finding the latter—his recreation—in the doing. William Cobbett, a son of the soil, acquired the French language by the flickering light of a camp fire in



FIG. 98.—IRIS ROBINSONIA.

the woods of North America, and, moreover, there compiled his French grammar, which, as a student's manual, is not, I think, even now excelled in its perspicuous treatment.

There is another phase of the subject I should like to express a thought upon, that is Sunday duty. Perhaps the hardest and longest hours I ever spent was when my "habitation" was the bothy, and the "Sunday on" brought in its train the shading, watering, syringing, and firing of four men. How blessed were those "Sundays off," and now, when each Sabbath finds me free as air, untrammelled by work or anxiety, do they ever seem quite so enjoyable as those "Sundays off" of bothy days? No. It is the philosophy of life that the contiguity of evils brings out so contradistinctively its blessings. Bear this in mind, young friends, when chafing under the bothy bonds.

Respecting the payment of overtime, it is perchance a good thing in its way. So diverse are the circumstances of gardens and gardeners that even all rules and regulations must perforce be of an elasticity to suit them. Generally viewed, I fail to see how this method of payment for extra (?) duties or work can result in unqualified good any more than that those duties or work can be confined within the limits of stated periods. There are few gardens in which times of pressure have not their corresponding periods of relief, and there are but few men who rule who will not do to their young men as they are done by. The overtime payment system is one better suited to the labourer's department than to the youth who is daily and hourly receiving his tuition—who aspires to a good position in after life, and must identify himself with the best interests of his work unmeasured by pecuniary reward.

This view from neutral ground has, I fear, unwarrantably encroached on space; moreover, young readers will ere this have, probably, concluded that any previous personal profession of favouring the Saturday half-holiday is pretty well stultified by it. Again may I

repeat it is not so? Have it if you can. If you cannot, take the higher view and endeavour to extract the moral from these passing thoughts that "Our acts, our angels, are for good or ill." It is to the latter section of our lads of the bothy—those who pine for what they may never receive—they are especially addressed, to be to them not only consolatory but stimulative. Did the matter require but a casting vote to make it *un fait accompli* it should certainly have that of—AN OLD BOY.

[Would the "Old Boy" have been a more accomplished man than he is now if he had been the recipient of greater indulgences in the days of his youth? We think we knew the "Tartan Chief," whose memory is cherished by those who once thought him hard to serve, including even the gardener referred to on page 459, May 21st, who has made his fortune early by strenuous endeavours, including the making of bricks, and whose gratitude to his late zealous master has been shown in a way that is altogether admirable—taking to his home, bringing up, and educating a fatherless child, whose present position and future prospects are such as would gladden the heart of him who once seemed exacting, but who proved "a friend to lads with grit." Whether they become "men of metal" depends on themselves, as in the case of the "Old Boy" and the brickmaker, who did not faint under the drilling of the past, or they would not be in the positions they occupy to day.]

NOTES ON LATE GRAPES.

IN order to secure a good crop of Grapes in the late vinery treatment must at the present time be given that will, other conditions being favourable, result in thorough swelling and perfect finish of the berries. All foliage should have full exposure to light, but when the space is fairly covered with leaves keep the shoots closely pinched. Excessive foliage does more harm than good, for it is elaborated sap that builds up the structure of the Vine, the crop of the current year, and the wood and buds that give the fruit of the next. The foliage should be rather thinner in the case of white Grapes than in black; this more particularly applies to Muscats, which of all Grapes require high elaboration of the juices to insure their assuming the rich golden amber colour so much prized. Avoid large reductions of foliage at a time, it only tends to cause shanking through check given the roots, and going with matter that cannot be properly assimilated. Keep the growths tied down from the glass and so prevent them from scorching. Vines extending may make as much lateral growth as there be room for, always giving the principal leaves or those corresponding to the pruning buds every advantage of light and air, not allowing them to be interfered with in any way by the laterals.

Late Grapes are gross feeders, they liking a good substantial soil, and with plenty of small stones and grit in it, yet somewhat firm so as to induce a fibrous root formation, furnish steady supplies of nutrition, or retain the nourishment supplied for the benefit of the Vines. Full supplies of phosphoric acid, sulphuric acid, nitric acid, and hydrochloric acid are necessary for forming the essential phosphates, sulphates, nitrates, and chlorides of lime, potash, magnesia, and iron; and where the soil is such as not to afford them in adequate amounts for the nutrition of the Vines they should be supplied in the form of superphosphate of lime, muriate (chloride) of potash, sulphate of magnesia and iron, with sulphate of ammonia for loamy and clayey soils, and nitrate of soda for those of a light or calcareous nature. A good mixture is formed as follows:—pure dissolved bones, five parts; muriate of potash, three parts; sulphate of magnesia, one part; sulphate of iron, half part; sulphate of ammonia or nitrate of soda, two and a half parts; mixed, and applied at the rate of 3 or 4 ozs. per square yard every three weeks, oftener or more distantly as nourishment is required.

Sulphate of lime is a necessity of Vine growth; it is supplied in the superphosphate, so that there is no need to repeat this substance. In some cases, such as calcareous soils, sulphate of potash is preferable to the muriate, chloride being considered by some to accelerate shanking, but this can only occur in presence of lime and very moist soil or defective drainage. Of all the manures for Vines few are better than night soil, or watering with house sewage, enough sulphate of iron being added to make equal to five grains per gallon. The sulphate in presence of ammonia is converted into a double sulphate of ammonia and iron, the latter being practically useless as a fertiliser without the ammonia, and is even better when phosphated, that is, adding some superphosphate to the sewage. Do not allow the border to lack moisture, for nutrient matters in the soil are of no use unless in liquid form, and thoroughly diffused through the stratum.

Neglect in watering borders that are well drained, as all Vine borders should be, and mulching, especially where the Vines are carrying heavy crops, is not only injurious to the present crop through inducing red spider and premature ripening of the foliage, but disastrously affecting next year's crop of fruit. Outside borders may need a light mulch, as the recent rains have made them moist enough; but if dry afford a thorough supply with some supporting food in it, or apply a fertiliser after watering and wash in moderately. The roots near the surface will take to it and multiply there accordingly instead of striking down into the depths of the border.

All late Grapes thrive best in a comparatively high temperature, abundant wholesome food at the roots, and a genial atmosphere. Maintain a night temperature of 65°, 70°, to 75° by day in dull weather. Admit air early, a little at the top of the house constantly, increasing the ventilation with the temperature, allow an advance to 85° or 90°, at which keep through the day from sun heat, reducing the opening with the declining sun. Close at 85°, damping the paths well then and again

before nightfall in hot weather. It is well to close for a short time, and afterwards admit a little air, which will prevent a vitiated atmosphere and allow the foliage drying in the morning by the time the sun acts powerfully. Avoid cold draughts or sudden depressions of temperature; they cause rust and favour the growth of mildew.—G. A.

ROYAL HORTICULTURAL SOCIETY.

JUNE 9TH.

SCIENTIFIC COMMITTEE.—Present: Dr. M. T. Masters (in the chair); Mr. McLachlan, Dr. Bonavia, Mr. Douglas, Rev. W. Wilks, Dr. Müller, Dr. Russell, Rev. C. W. Dod, Mr. Bennett-Poë, and Rev. G. Henslow (Hon. Sec.).

Experiments in Colouring Flowers—As a preliminary experiment, Dr. Russell tested the power of the soil to retain the various salts proposed to be used in the case of white Pelargoniums. He took two glass tubes, 1 foot in length, and three-quarters of an inch in diameter, and drawn out at one end. These were filled with soil from a garden, the amount being 8½ cubic inches. He poured in a solution of sulphate of copper (13 grains to the pint, or quarter of an ounce to a gallon). The water which came through was tested; but 4½ pints passed through before any trace appeared, and that only after one month; 56 grains were held by the soil. Similarly with sulphate of iron; 3½ pints of the solution passed through before any iron was present in the water. This took twenty-eight days, so that 47 grains were held by the soil. As an additional experiment, some of the same soil was saturated by shaking it with water; it was then put into a tube similar to the previous ones, and sulphate of copper (13 grains to a pint) poured on as before; 2½ pints passed through before any copper was traceable. This took fifteen days, so that 36 grains were held by the soil. The next experiment was made with ammonium salts. Ammonium nitrate was poured on the soil (13 grains to a pint); 4 ozs. came through before the ammonium salt was found. The soil thus retained 2½ grains. This took only three-quarters of an hour. Ammonium chloride.—With this salt, 5 ozs. passed through before ammonia was detected, therefore the soil held 3½ grains. It ran through in half an hour. The significance of these experiments showed that unless the salts be placed directly in contact with the roots, it might be retained in the soil, and no result would follow.

Prepotency of the Male Parent.—Mr. Douglas brought a very interesting communication on prepotency in crossing Carnations from Mr. Smith of Warren House, Hayes, Kent, of which the following is an abstract:—"One very strong bit of evidence in favour [of the male prepotency] is given by the crosses on 'Germania.' This is a flower of tremendous individuality, and if any flower could transmit its peculiarities to its descendants, it would be this; yet Germania (yellow) is swamped by the prepotency of the pollen parent in the great majority of cases. I hardly ever get a yellow worth having; but when I do I find them, as a rule, pure reproductions on a most feeble scale of the mother; and I always regard them as products of Germania fertilised by pollen of flowers on the same plant or from one in the immediate vicinity." Mr. Smith sends a table of crosses in which is Germania (seed parent) × King of Scarlets:—Produce, two yellow ground Picotees, one yellow self; Germania × Sir B. Seymour; all the produce took after the male parent; G. × a maroon, nearly all the offspring maroons; G. × Mrs. Vernon Harcourt; offspring, five scarlets and one maroon; G. × Ariadne gave scarlet, crimson, and rose. "The strongest evidence on the other side is afforded by the produce of Madame A. Warocque × G. I have at one time or another, since 1892, saved nearly ninety plants from this cross, and I never raised a yellow from it; a few buffs and apricots, but never a true yellow, by far the largest proportions being scarlets, rose, and crimsons. It seems to me to be easy enough in a cross for other colours to swamp yellow, but quite another thing for yellow to over-ride other colours, unless it exists in both parents. The most it seems able to do is to produce orange and buff." In further illustration of this fact he gives the following cases:—Ruby × G. gave two rose (no trace of yellow); Governor (maroon) × G. gave one yellow, one buff, two rose, and one crimson; Madame Van Houtte and Ella Murray × G., all the offspring took after the mother. Mr. Smith adds the following interesting fact with "whites":—"When you cross violent contrasts of colour, such as purple and yellow, or scarlet and yellow, you are apt to get a good proportion of whites." He gives as examples:—Corunna (yellow) × Hayes (scarlet); offspring, two whites, one scarlet; Germania (yellow) × purple, gives maroons and whites; G. × N. Murray (scarlet), four out of five were white; Lord Lefton × G. gave four whites, one maroon, three yellow or buff.

Primulas as Skin Irritants.—Mr. Dod observed that besides the well-known case of *P. obconica*, which has no effect upon himself, he finds *P. japonica* to be very irritating, and what is more remarkable, the "farina," a secretion of wax on the surface of the plant, produces the same effect, causing blisters on the hand.

Cineraria Hybrids.—Mr. Bennett-Poë exhibited a plant of *C. l'Heretieri* (♀) × a greenhouse variety of *C. cruenta*, raised by Mr. Lynch of the Botanic Gardens, Cambridge, and also a similar cross by himself. The flowers were very different. In the former they were red whole coloured, the petals long and dependent; in Mr. Poë's they were white, with tips purple and the heads flatter, more resembling an ordinary garden form.

Cytisus scoparius var. *Andreana*.—A question having been raised as to the seed of this variety coming true, Mr. Wilks observed that about one-third are true, but in others the blossom reverted to those of the

Broom, but were larger than on the wild Broom. Mr. Henslow exhibited sprays from a seedling which had come true. The plant had been grafted on the common Broom.

Peas Penetrated by Oats.—Mr. Henslow exhibited a specimen—one of many found among Peas—of a Pea which had been hollowed out by a weevil, and then penetrated by an Oat. It illustrates, presumably, the remarkable property of penetrating the soil possessed by Oats, fruits of *Erodium*, &c., which are provided with a spirally twisted hygroscopic awn. This on becoming moistened untwists, and so thrusts the lower end downwards. In this case it happened to penetrate the hollow peas.

Garden Hybrids.—Mr. Henslow described some specimens received from Rev. C. W. Dod, consisting of natural crosses between species of *Polemonium*, *Papaver*, and *Heuchera*. In one case *Polemonium flavum* × *P. coeruleum*, the hybrid scarcely differed from the male parent; but in all the others the cross was more decidedly intermediate. The following are a few of the points which showed the proportional intermediate characters. Taking, *e.g.*, *P. coeruleum*: the hybrid: *P. reptans*; the length of blades of similar leaves were as 3:4.5:5. The apex of a leaflet—shortly acute: sub-acuminate: acuminate. Anther elongated, golden yellow: shorter, pale yellow: shortest, white. Size of pollen grains—2:1.75:1.5, &c. With regard to *P. flavum* × *P. coeruleum*, Mr. Dod writes:—"This is the most interesting of the many hybrids of *Polemonium* which come up in my garden. I have no doubt of the hybrid, because I have carefully saved seed of *P. flavum*, and the hybrid has shown itself among several sowings. It is interesting because in colour and flower it so nearly follows the pollen parent. The difference in habit is considerable. *P. c.* has a perpendicular habit of growth, but the hybrid follows *P. flavum* in being divaricate at the base, the hybrid is absolutely barren, though the parents are both profuse seeders. The hybrid, however, is most prolific in other ways; for any stump of stalk grows readily and luxuriantly." With regard to other characters the hybrid is more decidedly pubescent than is the stem, &c., of *P. c.*; but less so than *P. fl.* The petals of *P. c.* have a round purple ring at the base of the corolla. In the hybrid this is wanting, as it is also in *P. fl.*, &c. The cross between *Heuchera cylindrica* with green flowers and *H. sanguinea*, with crimson flowers, is very obvious, the hybrid having rose-red flowers. The pollen, unlike that of the parents, was very bad. Though the leaves resembled those of the parents in size, the veining agreed mostly with that of *H. sanguinea*; the angles between the palmate veins being less acute than is the case in *H. c.* In the form of the calyx, the hybrid also approximated that of *H. s.* rather than that of *H. c.* In *Papaver orientale* var. *bracteatum* × *P. rupifragum*, this hybrid, though decidedly intermediate, approaches *P. r.* the nearest. Thus while *P. or.* is hirsute *P. r.* is pubescent. In the cross the hairiness is of an intermediate character. This is well seen in the calyx by the following proportions—*P. or.*: *Hyb.*: *P. r.*; stiff curved hairs: soft curved hairs: tomentose. The peduncle has cords scattered, as in endogens, in *P. or.*; while in the hybrid and in *P. r.* the peduncle is much smaller, having the cords in a ring. The corolla is scarlet in *P. or.*; orange in hybrid and *P. r.*, &c. Generally speaking, therefore, the hybrid is intermediate, but approximates *P. r.* With regard to other hybrid Poppies Dr. Masters observed that M. Vilmorin had succeeded in crossing *P. orientale* with *P. somniferum*, and also with *P. Rhæas*. Mr. Wilks tried to cross a Shirley with the Iceland Poppy, but the result was identical with the wild *P. Rhæas*.

The Flag-leek.—Dr. Masters exhibited a curious specimen, in which the leaves were very large, concrescent and spiral in growth.

WESTHILL, EDGBASTON, BIRMINGHAM.

THIS locally well-known residence of Lady Martineau (widow of the late Sir Thomas Martineau, and a sister of the Right Hon. Joseph Chamberlain's first wife) is situated in the Augustus Road in the City of Hardware's aristocratic "West-End." Westhill being known as the abode of one of Birmingham's most influential and respected citizens, both as connected with an eminent firm of barristers and prominent Town Councillor, having been elected on three consecutive occasions as Mayor of Birmingham, and it was during that term of high office that he, Mr. Thomas Martineau, was knighted on the occasion of Her Majesty the Queen laying the foundation stone of the Victoria Law Courts. Not the least notable of the many virtues possessed by the worthy Knight was his inherent love of horticulture, flowers especially, and it was this proclivity which so readily induced him to become the warm supporter and first President of the Birmingham Gardeners' Mutual Improvement Association for several years, from its inception until the time of his lamented death.

By the foregoing observations it will be more readily conceived that the charming though comparatively small grounds at Westhill proved to be a home for much pertaining to horticulture, and in which pursuit he ever found an able and interested coadjutor in his respected head gardener, Mr. Oliver Brasier, who continues to enjoy the confidence and esteem of Lady Martineau. As already remarked, the demesne is comparatively small, comprising about 4 acres, but owing to its landscape characteristics it appears considerably larger. The well-kept lawn and the surrounding shrubberies present a very pleasing effect in combination with several old timber trees disposed over the whole. The vegetable and fruit garden has been rendered small by the comparative large area occupied by the glass department; but at the time of our visit recently it was well furnished with vegetables in various stages of growth, whilst a considerable proportion is occupied by pyramidal and bush-trained Apples and Pears in vigorous health, inasmuch as to suggest the propriety

of a further application of the pruning knife at their roots. Several of the trees, however, promised a fair crop of fruit. The high geographical position, combined with the deleterious gases emanating from the various factories in the surrounding district, will ever prove inimical to the successful production of the tenderer kinds of fruit unless grown under glass; not but what some very useful and good crops have been often secured under the adverse conditions implied.

A promising feature connected with Westhill is the comparatively large extent of glass, consisting as it does of three good vinerias, and one of which is to be converted into a Peach house; two commodious span-roofed plant houses, each about 40 feet long by 24 feet wide. There are supplemented by a commodious lean-to structure for the growing of a variety of supernumerary plants in; whilst a smaller compartment is devoted to the culture of Melons, Cucumbers, and Tomatoes, and in a long, wide, span-roofed cold frame a large and healthy stock of Begonias, and named, as well as seedling Chinese Primulas, attracted attention. Of Chrysanthemums in various stages and forms of growth in the most robust health, destined, we think, to gain honours for their cultivator at the forthcoming local exhibitions, and thereby add to the long list of honours won in the past. Of equal importance is the stock of Palms, Crotons (*Codiaeums*), *Allamandas*, *Bougainvilleas*, *Ixoras*, and *Eucharis amazonica*, including a very fine specimen of *Cycas revoluta*, with about four dozen newly produced fronds; likewise specimen Azaleas, Fuchsias, and other subjects too numerous to mention here; suffice it to say they have frequently rendered a good account of themselves in more than one local "floralia." A large supply of "furnishing" plants and flowers is not the least interesting and essential commodity required for room and window requisition; in addition to the flower garden supply. Orchids, however, are a very small item in the general collection, as they are not specially required here. Note was made of a number of well bloomed plants of the novel and curiously organised *Streptocarpus Wenlandi*, with its enormous solitary leaf and the hairy peduncles rising from its axil, and which attain a height of about 30 inches, bearing numerous blue flowers, very similar to some of the "hybrid" well known strain.

Worthy of mention also is—what unfortunately is not possessed by every gardener in charge of a large collection of plants, &c.—the commodious and well-lighted and appointed potting shed, a factor materially conducive to the comfort of the operator and the well-being of especially tender plants under any condition of weather.

With regard to the vinerias very early forcing is not in request, and the earliest Grapes were only just commencing to colour. The crop was of moderate extent and with useful size in bunch, the Vines exhibiting signs of weakness as compared with their more primitive state, having for several years past produced heavy crops of fruit, and their roots requiring a new pasturage. This latter requisite, combined with judicious light cropping for a season or two, if afforded ere long, ought to produce satisfactory results, as they are apparently far from being past recuperation. The latest house did not exhibit so great a degree of weakness, the crop being heavier and the bunches larger. Mr. Brasier looks forward with pleasure to the conversion of the second vinery into a peachery. The forcing of Strawberries is not comprised in the code of requirements, and which if entailed would require an extension of garden space not readily at command.

In conclusion of these notes upon what may appropriately be designated as a *multum in parvo* gardening establishment, and in which good order and cleanliness are not the least features to be observed, owing to the energy of the courteous superintendent, who enjoys the universal respect and esteem of the horticultural fraternity of the neighbourhood.—W. G.

MEMORIAL TREE PLANTING.

THE planting of trees commemorative of particular persons or events is an interesting custom which, though perhaps not quite so widely practised as formerly, is in little danger of falling into disuse. Tree planting in itself is so delightful a debt of duty, paid alike to the soil and posterity, that it has been described as "a kind of moral virtue;" and the association of an illustrious memory with an individual tree at once endows it with a sympathetic and enduring human interest. Before leaving England last month the Queen had a tree planted near the drive leading from the Sovereign's entrance at Windsor Castle to Frogmore in memory of the late Sir Henry Ponsonby, which will be thus gratefully "kept green" perhaps for centuries to come.

No cenotaph appeals more strongly to cultivated minds than some historic father of the forest; and the great ages frequently attained by Oaks and Yews, not to speak of Elms, Limes, and Chestnuts, suggests that trees might with propriety be still oftener employed for memorial purposes than is at present the case. It is in the nature of things that their planting should chiefly be heard of in connection with wealthy owners and large estates; but no insuperable difficulty stands in the way of the realisation of Mr. Ruskin's opinion that "everybody ought to plant at least one tree during his lifetime." It might puzzle some eminent personages to decide whether they had laid more foundation stones or planted more memorial trees; and it may be permissible to say of the Prince of Wales that he has probably assisted at a greater number of both ceremonies than any other subject of the Queen. The contrast between the massive block of granite or Portland stone and the frail-looking sapling set in a foot or two of earth would seem to be all in favour of the durability of the former. But the tree is often destined to become a stalwart sentinel of Time, by whose side even buildings of importance slowly crumble into dust.

Memorial trees are to be found in all parts of England, though it is not surprising that "Royal Windsor" should contain more of historic dignity than any other demesne. It is by no means universally known that its great avenue of Elms was planted as a memorial of the Restoration of Charles II. in 1660. The date was numerically commemorated in the number of trees planted, exactly 1660 being employed for the purpose. Another imposing memorial, dedicated to an event which will ever be growing in interest for posterity, was undertaken on an estate in Wales to commemorate the Jubilee of the Queen's reign. This consists of a plantation of some thousands of trees so arranged as to represent the word "Jubilee, 1887," each letter and figure being 200 yards long and 25 broad.

The full effect of this design can, of course, only be realised by a bird's-eye view; and unless a captive halloon should some day be anchored in the neighbourhood the majority of persons will have to content themselves with a "mind's-eye" picture of the Jubilee plantation as it appears "on plan." Groups of trees intended to represent natural objects or particular geometrical figures were once rather in fashion; but few have been attempted on such a scale as that referred to. It was only in the reign of the French King Louis XIV. that the planting of avenues became general, and its introduction at Windsor, due probably to the relations then existing between the two Courts, was the precursor of many of the magnificent forest aisles of Beech and Elm for which our country is famous.

But, after all, groups of trees, like vast edifices, are somewhat impersonal. In the latter, our sympathies often centre in a single room, or cluster round an empty chair. And it is the individual tree that touches us most nearly, and with which by far the greater number of memorable events are associated. Many a forest monarch, full of high associations and traditions, appeals to us more strongly than a Royal mausoleum. The visitor to Newstead can hardly be unmoved by the sight of the Oak planted by Lord Byron as a memorial of his first visit there in 1798. No erection of marble could touch so deep an emotional note.

In this respect trees appear to be almost allied to sentient beings. We seem able to commune with them until they "plagiarise a heart, and answer with a voice." Such feelings were strongly expressed in the middle of the last century by the Jacobite custom of planting Scotch Fir trees as memorials of the Young Pretender. Strangely enough, the very opposite practice prevailed a hundred years earlier, when many of the adherents of the Stuarts cut down their choicest trees to a level below the spring of the branches—heheaded them, in fact—in memory of Charles I. and the Duke of Monmouth. As for the "Royal" and other memorial Oaks scattered throughout the country, their name is legion: Of course, trees are continually being planted to commemorate purely local, or even domestic events; and at the present time few Royal visits are brought to a conclusion without a similar memorial being solemnly instituted.

In a sense, all tree planting is of a "memorial" nature, if not to others, at least to the individual planter. Apt association's "artful aid" concurs with a host of "trivial, fond records," to impress such an act on the mind of the longest liver. A flower or shrub has its little day, perishes, and is forgotten. But a flourishing tree insists on being remembered, and its branches always carry a crop of fruitful memories. The experiment recently carried out in the environs of Madrid, when 2000 school children each planted a sapling of his own, may be open to criticism on its practical side; but few of the children who remain to grow up in the neighbourhood can ever be indifferent to the welfare of his particular tree. For him this will always be a "memorial" tree in the best and truest sense; and customs of a not dissimilar kind found in other countries show that our ancestors were not insensible to their salutary effect.

A Prussian ordinance of the eighteenth century, itself founded on a very ancient practice, decreed that every young couple should plant six fruit trees and six Oaks at the time of their marriage; and when this fatherly piece of legislation fell into neglect, the parish clergy were directed not to marry any persons until proof of such planting had been given. The Italians have a proverb, "If you wish to leave a competency to your grandchildren, plant an Olive tree." And though our old English proverb declares that "A Willow will buy a horse before an Oak will find him a saddle," even the latter slow-growing tree will often recompense the planter in his lifetime.

These, of course, are utilitarian considerations; but it is one of the great advantages of memorial planting that we may dedicate a tree to a sentimental use without any diminution of its practical benefit. The establishment of what is known as "Arbor Day," some twenty-five years ago, in the United States, was entirely due to prudential, if also patriotic, considerations. Many millions of trees have since been planted by individuals, without any organisation or control of a central authority; and it may be safely said of each unit of this vast aggregate that it will always maintain a special interest for the planter and his descendants.

All trees that attain to patriarchal age may be said to belong to history, although their records are not always clearly decipherable. They have outlived the generations that watched their gradual progress towards maturity, and they survive with an additional claim upon the regard of posterity. No one is more sensitively alive to this claim than the gracious lady who has herself planted so many trees destined to grow into memorials of the highest interest. During a gale at the end of last year, one of the trees at Holyrood, planted in the time of Mary, Queen of Scots, was blown down. But before it was taken away a photograph was sent to the Queen, and the assurance of

experts given that there was no hope of saving the fallen patriarch. A similar rule prevails in all the royal demesnes, from which no historic tree can be removed without Her Majesty's express permission.—("The Glohe.")

RHODODENDRON EXHIBITION AT BIRMINGHAM.

MORE or less interesting and attractive as the Edghaston Botanical Garden is at any season of the year, it is at the present time additionally so by reason of the very fine show of Rhododendrons contributed by Messrs. John Waterer & Sons, Bagshot, Surrey, and which was inaugurated on the 6th inst. under the joint auspices of the Botanical Society and the firm in question. A large marquee, about 150 feet long by 45 feet wide, has been laid under contribution for the purpose indicated. The plants have been placed closely together in three oval-shaped beds along the centre, and a wide tortuous border lines the sides and ends of the tent, whilst the intervening walks are formed of bright yellowish sand. The site is the old lawn tennis ground, and the turf of the portion occupied by the show was utilised in hanking the edging of the beds, consequently the *tout ensemble* was at once most effective.

Considering the lateness of the season for the removal of the plants, the long journey and hot weather, the plants looked remarkably fresh, and the blossoms as bright as if they had been *in situ* for several months—qualifications which render the Rhododendron the most useful, accommodating, and showy when in flower of any other hardy shrub. It is a pity they are not cultivated to nearly the extent their merits deserve, for they are not fastidious as to the nature of the soil, though it is a commonly received opinion that they cannot be grown successfully without having a suitable peaty soil, whereas good turfy soil from a pasturage, mixed with leaf mould or decayed manure, or the addition of peat, affords an admirable medium for the culture of the Rhododendron, and the Mollis and Ghent section of hardy Azaleas.

Resuming we may remark that Messrs. Waterer's exhibit contains several of the best and newest varieties extant, and the names of which it would be almost superfluous to enumerate. Amongst them are several unnamed seedlings of high merit. Noteworthy also is the collection of ornamental shrubs in boxes or tubs, which are stationed on both sides of the entrance walk to the tent.

Be it understood, however, that Messrs. Waterer do not altogether enjoy a monopoly here with their charming exhibits, inasmuch as in worthy rivalry there exists the long-established and comparatively large collection belonging to the gardens, and amongst which large old-established plants of John Waterer, Blandyanum, Everestianum, and others are very conspicuous; whilst such as Mrs. W. Agnew, Duchess of Bedford, W. E. Gladstone, Baron Schröder, Sappho, J. Marshall Brook, Marchioness of Lansdown, Martin H. Sutton, Kate Waterer, and Sigismund Rucker are, and have been, very attractive. Mr. Latham, the energetic curator, has recently planted a large number of young varieties, seedlings and otherwise, around the edging of the old beds. The fine old stagers of the neighbouring Ghent section of hardy Azaleas—now past their best—have also been very attractive, and rendered additionally so by their honeyed, delicious perfume.—G.



HARDY FRUIT GARDEN.

Layering Strawberries.—When it is desirable to establish early plants the first plantlets on runners may, as soon as young roots appear at the base, be secured on the surface of 3-inch pots filled with a mixture of loam and manure well firmed. The pots may be three parts plunged in the ground which will prevent the soil drying so quickly, and also avoid the risk of their being knocked over easily. A peg or small stone is sufficient to keep the runner in position while roots are taking hold of the soil. Cut off the wire beyond the pot. The runners only from fruitful plants must be utilised, those from barren plants proving disappointing where fruit is expected the following year. Maintain the soil moist by frequent watering, which will facilitate the rooting and establishment of strong plants, when the pots can be removed to quarters where they can stand closely together.

Netting Strawberry Beds.—The choicest fruit ought to be protected from the ravages of birds by nets placed over the beds. This may readily be done by driving down a few supports on the outskirts. The tops of these may be just above the level of the plants, so that cross pieces laid over the bed may support nets which do not touch the plants. The nets may hang to the ground at the ends and sides, fastening if necessary. This protection is easily removed for gathering the fruit. Nets are often simply laid over the plants, and when the plan acts well it can be adopted in preference to a more elaborate arrangement.

Summer Pruning and Training.—Regular attention to the removal of superfluous wood, and the shortening of shoots which may not be suitable for laying in, constitute the routine work among Apricots, Peaches, Nectarines, Plums, and Cherries. Shoots that are shortened for forming spurs may have three full-sized leaves left. Growths to be laid in should be selected from the base of the present bearing shoots.

Train them to the wall or fence as straight as possible, and leave them unstopped. A simple method of training at the present time consists in laying them in the required direction, securing by placing pliable twigs across them, the ends of which may be held fast underneath the adjoining branches. The leading shoots of bearing wood—that is, shoots with fruit on them, must be stopped at the third good leaf. If allowed to extend indefinitely they take the vigour which ought to be concentrated on the fruit. It is necessary, however, to have some leaves above the fruit in order to attract the sap; but the number stated is sufficient. Lateral growth which follows the shortening subdues at the first leaf. Train in a fair quantity of the young growths of Plums and Cherries, treating the Kentish or Morello section like Peaches, relying chiefly on the present season's growth for next year's bearing.

Thinning Fruit.—All stone fruits may be thinned finally now, judging what the trees will carry according to their age and condition. With vigorous and luxuriant trees an extra number of fruits has a tendency to subdue the production of gross growths; but weakly trees should have less than the average number. The same remarks apply to the branches when they vary in strength. One to three fruits to a square foot is enough for Peaches and Nectarines. Apricots may be thinned to 5 or 6 inches apart. Plums and Cherries do not require much thinning; but all fruits that seem behindhand in swelling may be removed with advantage. Pears and Apples are swelling freely, and those fruits that are to remain for a crop will be much benefited if small and deformed fruits are at once cut away, leaving three or less of the best to a spur.

Gooseberries and Currants.—Gooseberries and Red and White Currants on walls or trellises may now be summer pruned. Shorten the side shoots issuing from the main branches to three pairs of leaves. This will admit light and air, which favour the concentration of energy on the lower buds, causing the production of fruitful spurs close to the branches. It will assist trees bearing heavy crops if the soil is well moistened, borders against walls invariably being dry and frequently deficient in nutriment for the roots. This being the case a dose of liquid manure may follow, or a liberal mulching of manure, copiously watering over this in order that some sustenance may be washed out and carried through the soil.

Outdoor Vines.—Tie in and stop the bearing shoots one or two leaves beyond the bunches of fruit. Fruitless shoots emanating from spurs stop at the seventh leaf. Where vacant places require to be filled strong young growths may be encouraged, taking out the points at a length of 4 feet. This assists in plumping up the buds below, but allow a fresh leader to extend. Outdoor Vines have a tendency to become overcrowded if the growths are not well managed. They then become useless, and do not fruit owing to the energy running to waste and the wood not having a chance to ripen. Reduce the bunches to one on a lateral, leaving the best. It is best to dispense with the superfluous bunches before the flowers open. If delayed until after berries have set, and then not promptly carried out, there is some expenditure of force which might have been better utilised by the permanent bunches.

FRUIT FORCING.

Vines.—In Pots for Early Forcing.—Cut-backs started early and shifted into the final pots in good time will have the growths completed, the canes being stopped when from 6 to 8 feet long, and the laterals kept pinched to one joint as made. The Vines should be freely ventilated, kept thoroughly clean, exposed to every ray of light, and duly but not excessively supplied with water and nourishment at the roots. The most desirable varieties for early forcing are White Frontignan, Foster's Seedling, Black Hamburg, and Madresfield Court. Canes from early spring rooted eyes should be stopped when from 6 to 8 feet long, pinching the laterals and sub-laterals at one joint as produced. Those intended for planting are also best treated in a similar manner, the object being to secure a fibrous root formation and stout, well-matured wood.

Vines Cleared of their Crops.—Keep the foliage healthy by occasional syringing, afford sufficient water or liquid manure to keep the soil properly moist, a light mulching of short spent material preventing the surface cracking, saving watering, and enticing the roots to remain at the top instead of descending into the border. Allow a moderate extension of the laterals, and admit air freely above 60°. There is no fear of the wood not ripening, and the difficulty is to prevent over-ripening or premature fall of the foliage.

Houses of Ripe Grapes.—Slight shade, such as a single pilchard or double thickness of herring nets is advisable to prevent Black Hamburgs becoming red and Sweetwaters brown in colour. Moderate air moisture will not injure the Grapes if accompanied by judicious ventilation constantly. Keep the laterals fairly under, but a little extension will assist in the retention of the principal leaves, and upon these depends the storing of alimentary matter for maturing the buds and supporting growth from them for the next year's crops.

Grapes Ripening.—Small berries and many shanked are the characteristics of Grapes on Vines started at the beginning of the year. Nothing aggravates this so much as an excess of moisture and lack of sweet food. Where Grapes shank there is usually neither a deficiency of moisture nor of food, but neither is in a proper condition, the soil being too close—not enough grit and calcareous matter in it to insure the free access of air and water through it and passing away freely, consequently the food is not sweet, and shanking is the result. This greatest of evils in Grapes can only be overcome by an alteration of soil staple or rectification of its liability to sourness by application of lime, thus furnishing the Vines with nitrate and sulphate

of that substance. Admit a little air constantly when the Grapes begin to change colour, with sufficient heat in the pipes to maintain a night temperature of 65°, 70° to 75° by day, and 80° to 85° or 90° through the day from sun heat. Avoid an arid atmosphere, damping occasionally, and do not allow the border to become dry. Vines ripening heavy crops will be assisted in perfecting them and storing food for the future by an application of tepid liquid manure, applying it early in the day, and choosing bright weather, so that superabundant moisture will be dispersed before evening. A light mulching of spent material will assist the Vines by securing uniform moisture and keeping the roots near the surface, whilst preventing cracking. It is a confined atmosphere, with defective root moisture during the swelling, that do mischief in Grapes cracking when ripening or ripe.

Late Grapes.—The final thinning will need to be completed as soon as possible, crowding the berries being even worse than over-thinning; but extremes are always bad, especially that of overburdening the Vines. If there be any doubt of the crop being more than the Vines can finish well, by all means give the Vines the benefit by reducing the bunches. A pound of Grapes per foot of rod is usually as many as ordinary Vines finish well, but if mistake be made let it be on the side of the Vines, as those overburdened never finish the fruit well, and it is inferior in keeping qualities. Thin so as to secure large and highly finished berries, Gros Colman requiring to have them an inch apart or even more, whilst oval-berried varieties require a little less room, but all plenty, so that each berry will have ample room to swell to full size without cracking.

Melons.—If plants are at once put out in pits or frames that have been cleared of bedding plants, they will set the fruit in July and give excellent Melons during August or early in September. All stopping and disbudding must be done whilst the growths are small, for large reductions only tend to promote gumming and grossness in the parts retained, and are unfavourable to the setting of the crop.

Second crops may be taken when the plants are healthy, cutting out the old growths and encouraging young in their place. These will set and swell fruit freely if the plants are kept clear from red spider and due, but not excessive, supplies of nourishment are afforded.

During moist weather Melons do not set freely, the plants growing too vigorously, the defect being accelerated by a too moist atmosphere with crowding of the foliage. Keep the growths thin, admit a little air constantly, for no blossom can set when the moisture condenses on and destroys the delicate organs of fructification. Fertilise the flowers when fully expanded, stopping the shoots at the same time one joint beyond the fruit. Admit air freely if fine weather permit, increasing the chink of air from 70°, then allow a rise to 80°, 85°, or 90°, at which keep through the day, and reduce the ventilation with the declining sun. When the fruit is set and the size of a bantam's egg commence watering, and maintain a genial atmosphere. During ripening free ventilation and less moisture are desirable, withholding it from the atmosphere, and only giving sufficient at the roots to prevent flagging.

PLANT HOUSES.

Allamandas.—Large plants confined in pots will be flowering freely, and to keep them growing place a good layer of manure on the surface, and give liquid manure every time they need water. R pot all young plants that it is necessary to extend, and grow them fully exposed to the sun. These plants do well in loam, one-seventh of manure and sand. Shade only is needed for a few hours during the hottest part of the day when large quantities of flowers are expanded. The flowers of Allamandas are useful for dinner-table decorations or for shallow dishes when associated with *Adiantum cuneatum*. Plants that have been trained round four or five stakes and carefully hardened may be removed to the conservatory. Stand them where cold draughts will not strike directly upon them. With careful treatment they will grow and flower for a long time in this structure.

Bougainvillea glabra.—A very useful conservatory plant from this period of the year. It should not, however, be grown too warm when intended for these structures. If grown in heat harden the plants and remove them to cooler quarters for the flowers to expand. When developed under cool conditions they are much brighter in colour, and last much longer than those in too much heat. Encourage young plants to make strong wood, which if well ripened will flower freely another year.

Clerodendron Balfourianum.—Plants that are well grown in 6 and 7-inch pots from cuttings rooted early in the season are, if trained round four or five stakes and brought into bloom about this period of the year, conspicuous in the conservatory. After they have flowered they can be grown for another year; but the best method is to prepare some annually and convey those that have flowered to the rubbish heap, unless larger sized specimens are appreciated. Under these circumstances they may have larger pots. Young plants for next year are growing freely in 6 and 7-inch pots. Train them under the roof of a light house exposed to the sun—in fact, any light warm position will suit them.

Stephanotis floribunda.—Keep plants growing in pots by the aid of weak stimulants every time water is needed. If the surface is mulched with decayed manure the roots will soon take possession of it. So long as the plants can be kept growing they will continue flowering provided they are freely exposed to sun and air. Syringe frequently to keep the plants clean. Some attention is needed to train the shoots as they extend, or they soon become entangled and give endless trouble afterwards. Where practicable train the shoots up strings, for they are much more easily taken down than when they are secured to wires of a permanent nature. Where large plants are becoming too thick draw out

large shoots and layer them into 10-inch pots. The process is a simple one, about one-third of the wood on the under side being removed and the shoot pegged into the soil and covered about an inch deep. At this season of the year they root quickly, and will soon fill the pots with roots. This is a quick method of obtaining large plants.

Caladiums.—Plants that have been brought on steadily will, if carefully hardened, bear conservatory treatment from the present time without injury. A few well grown plants are most effective for grouping purposes, and any plants that will last fully three months in good condition deserve attention. Plants of this nature change the appearance of these structures during the summer months, and render them attractive when they would not otherwise be so with the ordinary flowering plants.

Acalyphas.—Few plants can be compared to these when well grown. They deserve attention at the hands of those who produce plants for the market. They will bear brisk heat provided they are fully exposed to the sun, when their foliage colours splendidly and the plants become woody. In the conservatory they are far superior to Coleuses if hardened for that structure. Plants stand in rooms for a long time without injury. From the present time they can be grown satisfactorily in cold frames provided they are kept close and the frames closed early in the afternoon.

Crotons.—Repot young Crotons as they need more root room, and grow them fully exposed to the sun. Use the syringe freely to keep down thrips and red spider. Give soot water in a clear state to those that are rooting and growing freely, and if syringed occasionally beneficial results will follow. Heads of plants that are growing too tall may be re-rooted, also well coloured side shoots for use in small pots.

THE BEE-KEEPER.

SEASONABLE NOTES.

THE weather during the past week has been dull and dreary, and heavy thunder showers have prevailed. The rainfall for the month up to date has been 1.57 inch, which has had the desired effect. Pastures have freshened in a marked degree, and the bee forage is now fairly plentiful in all directions. The white Clover, which is quite a fortnight earlier than usual, is fast coming into bloom; fields of young seeds that had been closely grazed by sheep have come on remarkably fast. Pastures that had a very scorched appearance are now green, and the plants making great headway. Although the young Clover does not appear to be as closely set as usual, still, with favourable weather, there will doubtless be a good surplus obtained from this source in many parts of the country.

What bee-keepers now require is bright warm weather, and honey will be brought in at a rapid rate. The barometer is rising rapidly, may fine weather follow, as from a bee-keeper's point of view there is just a feeling that it is possible to have too much of a good thing in the way of dull sunless days.

If previous instructions have been carried out the majority of stocks will now be in prime condition for storing a surplus. Each hive should be full to overflowing with bees, and when headed by young fertile queens I find they have much less inclination to swarm than when the queens are old.

Sections, presuming that a crate of twenty-one sections (more or less) were placed on a strong colony during the past month, will now require attention, and if not already done should be examined, as those in the centre will probably be sealed over and well finished off. These should be removed at once, for if allowed to remain for any length of time they will become disfigured owing to the bees constantly running over the surface of the combs. Those that are partly filled ought to be drawn close together into the vacant places caused by the removal of the others in the centre of the crate, the empty sections being placed at the ends of the crate, as the bees invariably finish off the centre combs first. By examining them every few days, according to the state of the weather, a much better sample of well finished sections may be obtained than if left on the hive too long. The cappings, too, are often made much thicker when allowed to remain in the hive longer than is necessary, which is an objection unless they are to be kept for a long time.

If honey appears to be coming in freely it is sometimes advisable to place a second crate of sections on each colony; this is done when the first is nearly full and partly sealed over, placing the empty ones underneath the former. It is desirable that each crate should be of the same size, otherwise it would allow an escape of heat, and the bees would have unnecessary labour in trying to propolise the open spaces.

The crates should be of the same depth as the sections, so that there is but little space left between them when placed in position, or the bees will fill the intervening space with comb, besides being objectionable in the mess that is caused in handling them. It also causes the bees to do a great amount of extra work, whose time would be much better employed in the legitimate work of the hive.

Novices and inexperienced bee-keepers are often nervous in the manipulation of the bees when removing the crates of sections. It is, however, such a simple matter in the hands of the experienced bee-keeper that one is sometimes tempted to ask why it is necessary to use a super cleaner, which may not be at all perfect, but is often recommended for the purpose. It may therefore be of service to those who have hitherto been nervous to state how it may be done without being stung, and in much less time than it takes to put it into writing.

Obtain a cloth (a piece of calico is capital for the purpose) a few inches larger than the top of the hive, well sprinkle it with carbolic acid, and after removing the extra coverings roll the quilt off with a steady but sharp movement. Spread the carbolic cloth over the top of the section crate, and allow it to remain for a couple of minutes. The bees will then be found to have left the super and gone down into the brood nest in the body of the hive. Now turn the cover back, so as to leave two or three rows of sections clear, remove the wedge and the board from the end of the crate, and lift the sections out one at a time; any stray bees that remain may be brushed off into the hive with a feather.

All sections that are sealed and well finished should at once be placed in a box conveniently to hand, so that the bees from the other hives cannot get at them, but when honey is coming in freely it is only on rare occasions they are interfered with. The partly finished sections must be returned to the crate to be finished, and the vacancies filled with empty sections as before advised.

If the crate is to be removed, and another placed underneath, lift the partly filled crate off the hive and stand it on one side; if the bees are thickly clustered on the top of the frames spread the carbolic cloth over them for a few seconds, and they will quickly run down between the combs. The crate containing the empty sections must then be placed in position, and the crate containing the partly filled ones directly on the top, cover the whole up warm, and in a few minutes the bees will be found busily at work, as if nothing had happened. Smoke will answer the same purpose as carbolic, but I prefer the latter, as it leaves both hands at liberty, and by keeping the cloth partly over the top the bees will not venture up until after its removal. If the operator is steady in his movements, and not nervous, there will be no danger of stings.

Having manipulated some hundreds of stocks on the above lines I am confident no one need be timid when putting on or taking off supers. A fortnight ago I obtained some well finished sections from strong stocks in my apiary. This is several weeks earlier than I have before obtained them, and were at once disposed of. Extracted honey has also been obtained from some well-filled combs placed as supers above the brood nest. This was very thick, taking several hours to run through the strainer. It was not of good quality, but had a very powerful aroma; this was obtained partly from the Hawthorn, but being dark in colour will not be appreciated by the public as much as the better samples obtained from the white Clover.—AN ENGLISH BEE-KEEPER.

TO CORRESPONDENTS

All correspondence relating to editorial matters should be directed to "THE EDITOR." Letters addressed personally to Dr. Hogg or members of the staff often remain unopened unavoidably. We request that no one will write privately to any of our correspondents, as doing so subjects them to unjustifiable trouble and expense, and departmental writers are not expected to answer any letters they may receive on Gardening and Bee subjects, through the post.

Correspondents should not mix up on the same sheet questions relating to Gardening and those on Bee subjects, and should never send more than two or three questions at once. All articles intended for insertion should be written on one side of the paper only. We cannot, as a rule, reply to questions through the post, and we do not undertake to return rejected communications.

Pansy Blooms (E. H.).—The Fancy Pansy blooms are attractive but do not equal the florists' standard; but this may not detract from the decorative value of the variety, which appears to be a robust grower, also a free and continuous bloomer. Its non-seeding habit is an advantage as prolonging the flowering period. Flowers that give special satisfaction to their possessors are always worth preserving.

Thinning Seedling Asparagus (J. W. M.).—The plants being intended to remain on ground where the seed was sown they should be gradually thinned without loss of time to 15 inches apart in the rows. By the early thinning and retaining the best plants you will secure a sturdy growth, a good root formation, and well formed crowns. If you could manage to give the plants some liquid manure they would make a wonderful growth even the first year, but it should not be given after the beginning of September.

Cannas (Pen and Ink).—Cannas succeed admirably in a cool greenhouse, by which, of course, you mean that frost is excluded in the winter, when the plants are at rest and require protection. During the summer and autumn, however, they bloom well and make a fine display. Half a dozen good varieties are the following:—Madame Crozy, salmon; Cheshunt Yellow, rich yellow; Trinignon Charlotte, crimson centre, edged with gold; President Carnot, rich red; Duchess of York, yellow, crimson spotted; Duke of York, crimson base, golden edging.

Decorative Pelargoniums (Suburban).—Most of the sturdy floriferous plants sold in the London flower market in 5-inch pots were raised from cuttings inserted last year at this time or sooner. The reason there are no cuttings on your purchased plants to take is not difficult to explain. The growers simply took care of them before sending the plants to market, otherwise they might not have a sufficient number of equally good examples another year. If you examine the plants carefully you will probably be able to see that two or three cuttings have been taken from the lower part of the flowering stems, a few strong growths usually pushing from there when the plants are vigorous, and these sturdy flowerless shoots make the best cuttings and plants.

Fuchsias and Petunias (M. E. H.).—Six of the best double varieties of Fuchsias are Miss Lucy Finnis, Frau Emma Topfer, Molesworth, Mrs. E. G. Hill, Beauty of Exeter, and Champion of the World. Violet Queen and Fringed Double White are excellent varieties of Petunias. It is the best plan with Petunias to obtain a packet of seed from a reliable firm, when you could obtain a better selection of double flowers than you could from named varieties. All that Fuchsias and Petunias require to maintain a constant bloom during the summer is to grow them in a cool airy greenhouse; supply well with water and liquid manure as the pots fill with roots. Cut off old blooms. The display may be still longer prolonged by having later plants outdoors and in frames to be at their best when the others show signs of declining. Both require a good foundation of young growth to be made before they are allowed to flower.

Gardenias after Flowering (A Constant Reader).—The plants must not be cut back, but encouraged to make a free growth in a temperature of 65° at night, or 70° to 75° when mild, 70° to 75° by day artificially, and 80°, 85° or 90° from sun heat. They should be properly supplied with water at the root and fed with some nutrient substance, such as soot water, maintaining a moist atmosphere by sprinkling the paths in the morning, syringing the plants at closing time in the afternoon, and in dry weather damping the house well in the evening. By such means you will secure a sturdy growth if due care be taken in ventilating. Overwatering is bad for Gardenias, making the soil sodden and sour, and when allowed to become too dry the plants sometimes shed more leaves than is good for them, besides spoiling their appearance. If you cut back the plants it is likely there will be few or no flowers next year.

Mildew on Grapes (W. R. H.).—The cause of mildew on Grapes is the spores of *Erysiphe communis*, which are liberated from the ascus of a perithecium in the spring, and, alighting on a Vine or other plant affording the essential food, germinates in favouring conditions of moisture. Three things are necessary:—1, The spores of the fungus; 2, a suitable soil or host plant; and 3, favouring conditions of growth. The surface mildews of the white type are always most abundant in dry seasons or during damp or dewy weather following a period (or consequently) of drought, and this characteristic is borne out both outdoors and under glass by events. There is no reason to assume that there is anything wrong with the management, for mildews are not the same everywhere, some localities, and especially those near rivers, being more favourable to them, particularly in a dry season. Dusting with flowers of sulphur arrests its growth in the mildew stage, but the better plan is to dust, by means of a bellows apparatus, with a fungicide in powder, such as Anti-blight, Anti-mildew, and Fostite. The fumes of sulphur also destroy the parasite. By one or other of those means you must destroy the mildew. A grower of Vines much troubled with it for years at length overcame the pest by the use of Anti-blight in solution, and dressing the Vines with a 10 per cent. solution of copperas during the resting season.

Vines and Peach Trees Unsatisfactory (A. B.)—The soil is semi-vegetable in nature and deficient of grit of any kind; as for lime, there is no trace. In order to improve it you may use the following ingredients to ten cartloads of the loam as it is, but of course it would need removing from the border, so as to secure proper proportions. For the Vines: Loam, ten cartloads; old mortar or lime rubbish, two cartloads; fresh horse droppings, one cartload; charcoal nuts, one cartload; bones, crushed 1 inch down to half an inch, 5 cwt. If you can command wood ashes, add a cartload to the above, or, failing them, 1 cwt. of basic slag phosphate and $\frac{1}{2}$ cwt. kainit. It would be the better plan to lift the Vine bodily, forming the border entirely afresh; and if this be done carefully and in good time (as soon as the foliage begins to mature) the crop will not be prejudiced. For the Peach trees: Old soil, ten parts; old mortar rubbish, two parts; clay, dried and pounded

so as to incorporate readily, two parts; well-rotted manure, one part; basic slag phosphate, 1 cwt.; double sulphate of potash and magnesia, $\frac{1}{2}$ cwt. Mix all together, and form in the border firmly, afterwards treating as suggested for the Vines. The work should be done expeditiously, so as to interfere as little with the trees' growth as can be helped. As there are few or no roots in the outside border, there is little need, if any, to interfere with them. As for the fertilisers you name they would be best used as top-dressings, even this year, as they cannot possibly injure the trees unless employed extravagantly; but may do good by enriching the soil and encouraging root and top growth in the Vines and Peach trees.

Names of Plants.—We only undertake to name species of plants, not varieties that have originated from seeds and termed florists' flowers. Flowering specimens are necessary of flowering plants, and Fern fronds should bear spores. Specimens should arrive in a fresh state in firm boxes. Slightly damp moss, soft green grass, or leaves form the best packing, dry wool the worst. Not more than six specimens can be named at once, and the numbers should be visible without untying the ligatures, it being often difficult to separate them when the paper is damp. (Pen and Ink).—1, *Euphorbia lathyris* (Caper Spurge); 2, *Sambucus aurea variegata*; 3, *Salvia argentea* (Silvery Clary). (P. D.).—1, *Adiantum capillus-Veneris*; 2, *Asplenium viviparum*; 3, *Pteris serrulata*. (Amateur).—1, *Cypripedium Lawrenceanum*; 2, *Cattleya Mendeli*, good form. (N. P.).—All the specimens were dead. Send fresh ones properly packed.

TRADE CATALOGUES RECEIVED.

G. Bunyard & Co. Maidstone.—*Strawberries and Other Fruits.*

M. Rains & Co., 34, Mansell Street, E.C.—*Wholesale Dutch Bulbs Catalogue.*

Ant. Roozen & Son, Overveen, near Haarlem.—*Dutch and Cape Bulbs.*

COVENT GARDEN MARKET.—JUNE 17TH

HEAVY supplies of Strawberries now arriving from the home counties, considerably lowering values of Grapes. Prices lower a 1 round.

FRUIT.

	s.	d.	s.	d.		s.	d.	s.	d.
Apples, Tasmanians, per case	10	0	12	0	Peaches	4	0	12	0
Grapes, per lb.	0	9	2	0	St. Michael Pines, each	2	0	8	0
Lemons, case	11	0	14	0	Strawberries, per lb.	0	3	0	9

VEGETABLES.

	s.	d.	s.	d.		s.	d.	s.	d.
Asparagus, per 100	2	0	3	6	Mustard and Cress, punnet	0	2	0	0
Beans, per lb.	0	9	1	2	Onions, bushel	3	6	4	0
Beet, Red, dozen	1	0	0	0	Parsley, dozen bunches	2	0	3	0
Carrots, bunch	0	3	0	4	Parsnips, dozen	1	0	0	0
Cauliflowers, dozen	2	0	3	0	Potatoes, per cwt.	2	0	4	0
Celery, bundle	1	0	0	0	Salsify, bundle	1	0	1	6
Coleworts, dozen bunches	2	0	4	0	Seakale, per basket	0	0	0	0
Cucumbers, dozen	1	6	2	0	Scorzenera, bundle	1	6	0	0
Endive, dozen	1	3	1	6	Shallots, per lb.	0	3	0	0
Herbs, bunch	0	3	0	0	Spinach, pad	0	0	4	6
Leeks, bunch	0	2	0	0	Sprouts, half slv.	0	0	0	0
Lettuce, dozen	1	3	0	0	Tomatoes, per lb.	0	4	0	6
Mushrooms, per lb.	0	6	0	8	Turnips, bunch	0	3	0	0

PLANTS IN POTS.

	s.	d.	s.	d.		s.	d.	s.	d.
Arbor Vitæ (various) doz.	6	0	36	0	Ivy Geranium, per dozen	3	0	7	0
Aspidistra, dozen	18	0	36	0	Lilium Harrissi, per dozen	12	0	18	0
Aspidistra, specimen plant	5	0	10	6	„ lanceifolium, doz.	12	0	15	0
Calceolarias, per dozen	6	0	9	0	Lobelia, per dozen	4	0	6	0
Crassula, dozen	9	0	15	0	Lycopodium, dozen	3	0	4	0
Dracæna, various, dozen	12	0	30	0	Marguerite Daisy dozen	6	0	9	0
Dracæna viridis, dozen	9	0	18	0	Mignonette, dozen pots	4	0	6	0
Ericas, various, per dozen	9	0	24	0	Myrtles, dozen	6	0	9	0
Euonymus, var., dozen	6	0	18	0	Nasturtium per dozen	3	0	6	0
Evergreens, in var., dozen	6	0	24	0	Palms, in var., each	1	0	10	0
Ferns in variety, dozen	4	0	18	0	„ (specimens)	1	0	10	0
Ferns (small) per hundred	4	0	6	0	Pelargoniums, per dozen	8	0	12	0
Ficus elastica, each	1	0	7	0	„ scarlets, per dozen	3	0	9	0
Foliage plants, var. each	1	0	5	0	Spiræas, doz.	6	0	9	0
Hydrangea, various, doz.	9	0	24	0					

AVERAGE WHOLESALE PRICES.—OUT FLOWERS.—Orchid Blooms in variety

	s.	d.	s.	d.		s.	d.	s.	d.
Acum Lilies, 12 blooms	2	0	4	0	Pæonies, various, per dozen	0	6	1	6
Asparagus Fern, per bunch	2	0	4	0	blooms	0	6	1	6
Bouvardias, bunch	0	6	1	0	Pelargoniums, 12 bunches	4	0	8	0
Caruations, 12 blooms	1	0	3	0	Polyanthus, dozen bunches	1	6	2	6
Cornflower, dozen bunches	2	0	3	0	Poppies, various, per dozen	0	6	2	0
Eucharis, dozen	2	0	4	0	bunches	0	6	2	0
Gardenias, dozen	2	0	3	0	Primula (double), dozen	0	6	1	0
Geranium, scarlet, doz.	4	0	6	0	sprays	0	6	1	0
bunches	4	0	6	0	Pyrethrum, dozen bunches	1	6	3	0
Iris (English) doz. bunches	4	0	6	0	Roses (indoor), dozen	0	6	1	6
Lilac (French) per bunch	4	6	6	0	„ Tea, white, dozen	1	0	2	0
Lilium longiflorum, twelve	3	0	5	0	„ Yellow, dozen (Niels)	2	0	4	0
blooms	3	0	5	0	„ Red, dozen blooms	1	0	3	0
Maidenhair Fern, doz. bchs.	4	0	8	0	„ Safrano (English),	1	0	2	0
Marguerites, 12 bunches	2	0	3	0	dozen	1	0	2	0
Mignonette, per dozen	3	0	4	0	„ Pink, per dozen	3	0	5	0
bunches	3	0	4	0	„ Smilax, per bunch	3	0	5	0
Myosotis or Forget-me-not,	1	6	2	6	Spiræa, dozen bunches	3	0	5	0
dozen bunches	1	6	2	6	Stephanotis, dozen sprays	1	6	2	0
Orchids, various, per dozen	1	6	12	0	Tuberose, 12 blooms	4	0	6	0
blooms	1	6	12	0					



LOW PRICES.

We are so accustomed to speak of present prices of agricultural produce as low, and the actual truth is so undeniable, that we are apt to forget how much the depreciation in value really means, and what a small proportion of the occupier's loss has, in many cases, been borne by the owner, although his liberality in meeting his tenants by reduction or return of rent may have been apparently very great.

It is only by making comparison of actual prices realised on the same farm at the different periods that we can arrive at the exact truth. We have, therefore, been comparing books of 1877-78 with those of 1895-96, and will give herewith the result of our investigations.

	1877.		1895.		DEPRECIATION.
	£ s. d.		£ s. d.		£ s. d.
Wheat per quarter ...	2 10 0	...	1 6 0	...	1 4 0
Barley " " ...	2 8 0	...	1 3 0	...	1 5 0
Oats " " ...	1 4 0	...	0 14 0	...	0 10 0
Beef per 14 lbs. ...	0 9 9	...	0 6 9	...	0 3 0
Mutton per lb. ...	0 0 8	...	0 0 6	...	0 0 2
Potatoes per ton ...	5 0 0	...	2 0 0	...	3 0 0
Wool per stone ...	0 17 6	...	0 13 0	...	0 4 6

If the farm had been carried on in 1895 under similar conditions of cropping and management as in 1877, on the basis of actual produce sold in that year, the depreciation in value would have worked out as follows:—

PRODUCE.	DEPRECIATION IN PRICE.	
	£ s. d.	£ s. d.
280 qrs. Wheat at ...	1 4 0	= 336 0 0
190 qrs. Barley at ...	1 5 0	= 237 10 0
No Oats grown in 1877.		
700 stones beef grown and fed at	0 3 0	= 105 0 0
15,000 lbs. mutton grown and fed at	0 0 2	= 125 0 0
60 tons Potatoes at ...	3 0 0	= 180 0 0
260 stones wool at ...	0 4 6	= 58 10 0
		£1042 0 0

Showing a loss of more than £1000 in value of the produce of a farm of less than 400 acres. As the original rent of the farm was £450, it will be seen that the depreciation is equal to 2.31 times the rent and that even if the land were handed over to the tenant as a free gift how impossible the old methods of cultivation would be at the present time.

It has only been by adapting his methods to the changed circumstances of the times that the farmer has been able to keep going at all. Herein lies the reason for the great differences that have appeared in the severity of the depression. The heavy clays have hitherto suffered the most, but at the worst they will make grass, though the process of getting a good grazing surface may be a slow one. But the clays are no worse off than the thin chalks of East Yorkshire, Lincolnshire and some of the southern counties, for if laid down to grass these latter soon become little better than an Australian sheep run, whilst they are quite unsuitable for the semi market gardening crops now so extensively grown on loam and sand.

It may be said that the farm expenditure has been much reduced of late years. So it has, but nothing like the 40 per cent which is represented by the reduction in the receipts.

Taking rent, labour, manures, feeding-stuffs, &c., and putting all together, we should imagine that 25 per cent. would more than cover the saving in these items, so that the occupier has had to bear not only his own 40 per cent. reduction of his profits but 15 per cent. of that which should in strict justice have been carried by the owner, labourer, cake and manure merchant, and tradesman. As this 15 per cent. would be about 12 per cent.

per acre, if we add to it the 40 per cent. reduction of profit, say 8 per cent., we have a loss to him of £1 per acre; as £1 per acre was a fair profit in the better times we find the profit now reduced to nil, and though a small profit with a quick return may be a fine thing, no one can live without a profit at all.

This is really all that can be expected of the old system, even if carried on with skill and industry. But what is to replace it? We must vary our crops, introducing new ones where possible, so as to produce a higher average bulk; we must make intelligent use of artificials, which were never known to be so cheap, and we must practise the strictest and truest economy.

By introducing the new crops the old four courses, Wheat, Turnips, Barley, seeds, will not be repeated so often, and better crops will result after a longer rest. We hope in another paper to give a few details from actual practice, showing what can be done in this direction.

WORK ON THE HOME FARM.

The rain, which at first was very partial, has become general, and fallen in large quantities. The improvement in farm prospects has now become most marked, and though too late for Mangolds there should now be no lack of Swedes and Turnips even on the strongest and roughest of soils.

That many districts have been in a parlous state there is no doubt, and we have heard of clod breaking being performed with hammers between Potato ridges. However necessary such an operation might be, we cannot envy the lot of the unfortunate cultivator who was reduced to it. All this should now be changed, and a fair tilth may be obtained after all.

Clovers are now in flower, and nothing will be gained by waiting for more bulk before mowing. We shall get ours at once (weather permitting), and try for a second crop, which should grow well now. Meadows laid in early are also ready to cut, and will do little more good. The present crop is a very light one, also taken in this case; but the first crop must be cut at once to give time for a second to come to maturity.

Mangolds having come very slowly, the weeds will get big and do them much harm; they should therefore be carefully side-hoed at once, by hand; the horse hoe would not go near enough, and might cover up the little Mangold plants. Early cleaning is most necessary for Mangolds. The horse hoe must follow the hand hoe pretty closely to give the finishing touch to the weeds, as well as to keep the soil loose on the top. If a hot spell were to follow immediately after these heavy rains the surface would soon bake.

Swedes, also, should never be neglected with the hoe; weeds only rob the little plants of the support intended for them alone. Every advantage should be taken of dry weather for hoeing and thinning. Plants thinned out are liable to grow between the rows in showery weather, and if allowed once to get strong they are very difficult to kill.

Rape for autumn keep should now be sown, either 3 lbs. per acre drilled or 7 lbs. broadcast. We prefer the tall growing varieties of Rape, as sheep eat the stalks better.

METEOROLOGICAL OBSERVATIONS.

OAMDEN SQUARE, LONDON.

Lat. 51° 32' 40" N.; Long. 0° 8' 0" W.; Altitude 111 feet.

DATE.		9 A.M.				IN THE DAY.				Rain.	
1896.	June.	Barometer at 32°, and Sea Level.	Hygrometer.		Direction of Wind.	Temp. of soil at 1 foot.	Shade Tem- perature.		Radiation Temperature		
			Dry.	Wet.			Max.	Min.	In Sun.		On Grass.
		Inchs.	deg.	deg.		deg.	deg.	deg.	deg.	Inchs.	
Sunday ..	7	29.614	66.4	64.2	S.E.	61.6	66.8	52.8	110.4	44.3	0.222
Monday ..	8	29.603	61.7	56.2	S.	60.1	74.7	53.7	119.3	51.1	—
Tuesday ..	9	29.504	64.9	60.4	N.E.	60.3	73.7	53.7	118.9	47.7	0.223
Wednesday	10	29.527	58.0	56.4	N.	60.9	62.5	56.7	81.6	5.0	0.464
Thursday ..	11	29.825	61.4	58.2	N.W.	59.8	75.4	55.1	121.9	55.0	—
Friday ..	12	30.105	67.0	60.9	N.W.	61.1	80.0	54.8	118.9	50.2	—
Saturday ..	13	30.090	72.7	64.0	N.E.	61.9	81.3	55.0	125.3	49.9	—
		29.753	61.6	60.0		60.8	73.5	54.5	113.8	50.6	0.909

REMARKS.

- 7th.—Alternate sunshine and showers throughout; heavy rain between 10 P.M. and midnight.
 8th.—Heavy shower at 3.30 A.M.; alternate cloud and sun after.
 9th.—Spots of rain early; overcast day; almost continuous rain from 7.30 P.M.
 10th.—Almost continuous rain till 9 A.M., and from 11 A.M. to 8 P.M.; overcast and damp between.
 11th.—Rain early, and overcast till 9 A.M.; generally bright and sunny after.
 12th.—A good deal of cloud, but frequent bright sunshine.
 13th.—Sunny and warm as a whole, but cloudy at times in the morning.
 Welcome rains in the first half of the week, but hot and dry at the close. Temperature nearly 5° above the average.—G. J. SYMONS.

LONDON COUNTY COUNCIL.

TO NURSERYMEN & BULB GROWERS.

The LONDON COUNTY COUNCIL is prepared to receive TENDERS FOR THE SUPPLY OF BULBS for various parks and gardens under its control. Persons desiring to submit tenders may obtain a copy of the specification, form of tender, and other particulars on application to the Chief Officer of the Parks Department, 9, Spring Gardens, S.W. Tenders must be made upon the official forms, and the printed instructions contained therein must be strictly complied with. Tenders are to be delivered at the County Hall, in a sealed cover, addressed to "The Clerk of the London County Council," and marked "Tender for Bulbs." No Tender will be received after 10 o'clock a.m. on the 3rd of July, 1896. Any Tender which does not comply with the printed instructions may be rejected. The Council does not bind itself to accept the lowest or any Tender.

C. J. STEWART,
County Hall, Spring Gardens, S.W. Clerk of the Council.
18th June, 1896.

PAULS' ROSES.

WM. PAUL & SON invite inspection of their Roses now coming into bloom. There may be seen at these Nurseries all the most desirable Old and New Roses, including many sorts of their own raising, which are not yet to be seen elsewhere. The flowering will continue throughout the summer and autumn. The HARDY PICTORIAL TREES and SHRUBS, CLIMBING and HERBACEOUS PLANTS, FRUIT TREES, &c., in great variety, are now in fine condition.

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HAVE YOU SEEN, if not secure at once,
HOLBORN GLORY SWEET WILLIAM (New)

Each flower pip size of pennypiece. Strong plants, 5s. doz.
AURICULAS. Young's Grand Prize strain.
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All Hardy Plants supplied.

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In connection with the National Flower Show at the Crystal Palace in August, the Council of the Agricultural and Horticultural Association, Limited, offer the above prizes, of which details will be found in "ONE AND ALL GARDENING," the Association's Illustrated Annual of 192 pages.

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CAULIFLOWER, 3s. 1000; single thousand, 3s. 6d. Covent Garden Brussels Sprouts, 2s. 6d.; Drumhead Savoy, 2s. 6d.; Drumhead Cattle Cabbage, 2s. Thousand mixed, purchaser's selection, carriage paid, 4s.

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LAXTONS' NEW ROYAL SOVEREIGN,

In Pots (60's); good strong plants, this season's runners, 5s. dozen, 20s. 100; open ground runners, 8s. 100 LAXTONS' NOBLE (in 60's), 3s. 6d. dozen, 15s. 100; open ground runners, 5s. 100. Can be supplied at once.—HORNE, Jun., Cliffe, Rochester

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New Varieties for 4s. 6d.; last year's varieties, 5s. per doz.; older Varieties, Double, Single, and Ivyleaf, 2s. 6d. per doz.; Cuttings, half-price. DAHLIAS that took the First Prizes at the Great Autumn Shows, 4s. per doz. Catalogues on application.—RICHARD PANNETT, Florist, Chailley, Sussex.

PROTECT YOUR GARDENS from Ravages

of Birds.—TANNED NETTING, 35 square yards for 1s. Will not rot if left out in all weathers. Sent any width; carriage paid on all orders over 5s. As supplied to the Royal Gardens. Sent on approval. Hundreds of Testimonials.—H. J. GASSON, Fishing Fleet, Rye, Sussex.

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Cricket, or Camping-out purposes. 40 feet in circumference, pegs, poles, mallet, and lines complete (with tent bag included). These tents are white, and have only been used a little by Her Majesty's Government, and originally cost over £6 each. I will send one complete for 25s. Can be sent on approval. N.B.—I have a quantity of tents from 15s. to 20s. each, but the tents which please my customers are those I send out at 25s. each. Carriage paid. Price list of Marquees (any size), post free.—HENRY JOHN GASSON, Government Contractor, Rye, Sussex.

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Journal of Horticulture.

THURSDAY, JUNE 25, 1896.

SUNSHINE AND SUFFERING.

DAYS, weeks, even months of dry weather and almost continuous sunshine have prevailed over the British Isles, until this denial of the blessed rain from heaven, coupled with increased intensity of the solar rays, have forced facts upon our notice that only similar conditions of weather can do. Suffering teaches some sharp lessons from whatever cause it proceeds. "Lessons of the Drought," a recent leader in these pages, have pointed to the results of good, bad, and indifferent culture, and doubtless claimed more or less attention from interested readers. The brief thoughts I venture to express here are, if supplementary, sufficiently relevant I trust to form Chapter II. of "Lessons of the Drought."

It has been pleasant to read of refreshing rains having fallen generally over a large area. A pleasure which was in many localities qualified by pain, bringing into sharp contrast the blessing and the evil, for low mutterings of distant thunder and the clouds big with mercy passed over to break elsewhere. Yet all things come to those who wait, so we waited and suffered until the welcome change came on the night of the 16th inst. Two days previous to that tender tops on lofty Pines in the woods flagged pitifully. Not only vegetation suffered, but the animal kingdom—our cattle and ourselves. From the distant hills, where parched vegetation of Furze or Heather required but the kindling propensities of mischievous urchins to sear the landscape, out on to the table lands the talk was of rain, the work carrying or carting water.

Returning to our own immediate domain, in well appointed gardens the more serious aspect of this question is not shown; yet how many there are where the precious element is least in evidence when most wanted? And yet, again, how simply and inexpensively might provision be made to store up some of that abundance which runs as waste for months to the sea? How inadequate are the provisions in even some fairly pretentious gardens, not in the way of tanks or tubs for immediate supply, but for storage purposes on the larger scale, giving the one thing needful during prolonged drought. Not since

Jubilee year has this question forced itself so prominently upon my notice, but more than once has considerable worry and anxiety ensued from it.

In that year (1887) of rejoicing, of sunshine, and of suffering through burnt-up England my work commenced anew on a small estate fed by two hill-born streams. Much expensive work had to be carried out in hydraulic machinery, yielding a good supply whilst water ran; but as during a spell of drought one stream invariably went dry, and when more protracted the other all but failed, we suffered as many more in that neighbourhood did; indeed, we were not the worst off, for on the higher ground cattle died. It is, of course, admitted that much of this suffering was not remediable, but so far as we on the estate were concerned we could, I believe, have stored up a powerful auxiliary supply from one stream by building a tank or reservoir, and, to me at least, such appeared perfectly practicable. For some few days during the most critical period we were dependent on a well. A well is a very good thing, but a moral springs from many of them during a spell of drought, as it did from ours—viz., "You'll never miss the water till the well runs dry."

Now, when I see how much has been done in some places, and could be done in others, with bricks and cement, then it appears something like culpable negligence not to use this means to an end when other means fail. Yet have I been better able to see than to act, and many place their dependence on normal seasons, in spite of the lessons taught by abnormal ones. Experience taught but wisdom failed to endorse it. The value of theory is, of course, tested by practice. I will merely add that in a parallel case in a hill country such a system as advocated had been carried out with entire success, although in this case it was rather an example of skilful engineering, for our reservoir was on a neighbouring hill a mile distant, but there I know during protracted drought we were not forbidden to wash out the floors of our glass houses, whereas in more than one abnormal season of later and less happy experience it was a luxury not to be entertained.

We of the Western Isles cannot well realise the value of "a well of water," as depicted in the patriarchal narratives of Oriental scenes; for so far as our own country is concerned, there appears to be no scarcity of the pure and precious liquid, if we knew just where to dig for it—to tap the subterranean springs.

The practice of finding water by aid of the divining rod is, I think, more worthy of attention and credence than it generally obtains. It is a practice, not a theory only (indeed I do not know that we can attach any theory to the inexplicable), of which I am somewhat diffident of introducing here, for it is one in which a good deal of scepticism must prevail. We like our practice to be based upon sound theory, as much as we like our theory to be exemplified by practice. Why that a simple forked rod of Hazel, or other wood, or even metal, should twist and twirl in the hands of a medium when over the subterranean spring, is not, that I am aware, explainable; but I have, without witnessing the operation, seen and heard of such results, especially in the neighbourhood of Bristol, as to leave no doubts on my mind of its efficiency.

Some interesting data of fruitful experiments are to be found in the "Quiver" for 1887 (page 565). Without quoting facts there related, which appear to be both indisputable and convincing, the brief summing up of that article (by C. F. Gordon-Cumming) may be given. It is this—"Doubtless ere long this seemingly mysterious power will be scientifically explained. For the present, however, it remains among the number of unfathomed mysteries, of which a few still remain to puzzle our wisest men, and to provoke the contemptuous sneers of those who (. . .) believe that whatever is beyond their own powers of understanding must necessarily be foolishness." Probably this power of water-finding has been invested with some amount of superstition not conducive to a diffusion of knowledge of the subject, hence the confining of this work to limited areas.

Whilst we have so much evidence of the suffering entailed by

a season of drought, when each day sees the sun rise and set in tropical splendour, and whether or not we use all the means available to cope with it, such a measure of uninterrupted bright sunshine has possibly beneficial influences beyond the range of our computation. It is, I believe, now recognised by modern science that many of the multitude of malignant microscopic organisms are annihilated by the solar rays. Visible life in the way of insect pests thrive, we unfortunately know, to the detriment of vegetation. Yet out of evil may come good. There is a good deal yet of the more practical side of the question in our own hands—that is, the water question, which has undoubtedly of late been to many one of anxiety. Spells of drought are, of course, in our island home abnormal; hence we trust in Providence, and in some cases tempt it too.—INVICTA.



ORCHIDS AT ELSTEAD.

At the charming Surrey home of C. L. N. Ingram, Esq., universally known as one of the proprietors of the "Illustrated London News," Orchids are the speciality, and though other things are grown under glass, they are in complete subservience to the aristocrats of the floral kingdom. Almost all the way from London to Godalming there are glimpses of the picturesque in Nature, culminating, by the aid of man, in the "new" station of the latter town. Here the station master is the head gardener, and ably does he carry out his self-imposed duties. Handsome evergreens line the station on each side, while further embellishment is sought and found by the aid of plants in pots, hardy flowers, trim kept lawns, miniature terraces, and the tidy greenhouse, gay with the season's flowers. This station—one of the prettiest that has been seen in fairly extensive wanderings—is a credit alike to its master and to the London and South-Western Railway Company to whom it belongs, and it is one that might be taken as a model for others quite as well adapted, but neglected through the ruling of an unhorticultural chief. This is a digression, but it will be pardoned, as it is one of the tenets of the gardening fraternity to give honour to whom honour is due, and surely it is due when the weary traveller is refreshed by the sight of charming plants and flowers?

To reach the collection of Orchids we have come to see there is a road journey of five miles after the one by rail, and this is overcome by the aid of a pony and trap. As progression is made remarkable evidences of the drought and cold winds, that prevailed for a considerable period until but a short time ago, are seen in the hundreds of Oak trees, from many of which the leafage had been completely shorn. Some had escaped, but the majority were absolutely leafless, and this after having worn their beautiful spring garb. Occasionally signs of fresh growth were perceptible, but it can scarcely be hoped that they will this year recover from such a severe check. We are just entering Elstead when our destination is seen on the right, and as we reach the entrance Mr. T. W. Bond comes forth with a true gardener's greeting. Soon we are in his house, but not for long, as the grower is too anxious to get among his pets to allow of much leisure.

It is difficult to say, even after making a very close inspection, which section of the great Orchid family is best represented, for the simple reason that Cattleyas, Lælias, Cypripediums, and Dendrobiums are all so fine and so numerous. Perhaps, however, the majority of visitors would accord the position of honour to the Cattleyas and Lælias in combination, and in so doing they would not err very greatly. For their accommodation a new span-roofed structure was erected at a comparatively recent date, and this is now completely full. There is a central path with stages on each side in the body of the houses and side ones in addition, so that space is readily found for a large number (there were 2000 in at the time of this visit) of plants. There is no crowding, each plant has as much room as it requires for development, and many of them are placed on deep pots on the open staging. In length the Cattleya house, as it is justly termed, is 65 feet, while it has a breadth of 25 feet. It is lightly yet strongly constructed, and looks as though it will stand for a considerable space of time.

The prevailing feature on getting amongst the plants is their excellent health. Each pseudo-bulb and leaf is of the peculiar hue which is generally taken as synonymous with splendid condition. Each section is represented, the flowers open being largely on plants of the Mossiæ type. First might be seen one with a superb lip, then one with magnificent sepals and petals, yet another in which every portion is good, and so one might continue did time permit, but as it does not we must sum up briefly with the assertion that amongst the several in flower not a bad variety could be seen, though obviously some were better than others. Then there were the Schröderas, the labiatis, the gigas, the aureas, the Mendelis, the Gaskellianas, the—stay, no more names—excellent health and cleanliness. Of the Lælias there were several beautiful forms of purpurata in bloom, other sections being strongly in evidence by their growth rather than by their flowers. These again were of high quality, and some of the plants were of considerable size. It behoves us, however, to spend no more time amongst these, or mention will not be made of the many other plants seen at Elstead.

It is not every day that Dendrobiums can be found in such health as they are here in an old lean-to that for years did duty as a fruit-forcing house. There are little plants in "thimbles," larger in pots, others in baskets, on the stages, hanging from the sides and roof, and even standing on the edges of the water-tanks. Though only one or two are in flower there are abundant evidences of splendid culture everywhere. The growths are strong, healthy, and perfectly clean, as also is every leaf in the house. Some time the writer hopes to see them in flower, for the spectacle must be magnificent. "What is the secret of such successful cultivation?" Mr. Bond was asked. "Water, heat and light," was the reply, given with incisive promptitude, and certainly if those are the only essentials to first-class Dendrobium growing then no one ought to have very much difficulty with them. The collection is very strong in varieties of nobile, though of course scores of other species are grown.

The collection of Cypripediums is an extensive, and at the same time an extremely interesting one by reason of the numerous crosses that have been made from time to time, and of which some of the resulting plants are constantly flowering. Of these there are several hundreds in various stages of growth, but in all excellent health is particularly conspicuous. In hybridising the grower has so far as possible taken new lines, and the results are therefore looked forward to with intensified interest. Taking into consideration the fact that almost all the leading species and hybrids are represented it would serve no useful purpose to enumerate them here, especially when it is borne in mind how well the names are known to the majority of the readers of the *Journal of Horticulture*.

No less attractive are the Orchids, represented in lesser numbers. Of these the Phalænopsis are excellent, for amongst the plants are noticeable some of the best kinds and varieties in cultivation, almost every one of which is in capital health. The graceful spikes of the Oncidium, the elegant Odontoglossums, the handsome Vandas, all combine in forming a complete collection, as do others of which particular mention cannot be made in these brief notes. Suffice it then to say that the robust looking plants create the impression that at Elstead their cultivation is equally as well known as are the requirements of those to which attention has already been called. Of these, again, there are many seedlings, though they are not perhaps so numerous as those of Dendrobiums (which apparently come up anywhere and everywhere) or of Cypripediums.

Of all the structures visited, the one that will probably prove the most attractive to the ardent orchidist is that containing the Cattleya seedlings, of which there are records of close on 2000 in the "stud" book, while there must be hundreds of others that have not yet been completely entered. There are hybrids and bigeneric hybrids in, at the first glance, almost endless numbers, and that some at any rate of them are good is proved by the fact that Lælio-Cattleya Pytho, which is represented by the woodcut (fig. 102, page 588), received an award of merit at the meeting of the Royal Horticultural Society, held at the Drill Hall on June 9th. As the illustration proves the flower is of striking form, showing evidences of Lælia elegans Turneri and also of Cattleya Loddigesii, from a crossing of which it was obtained. The prevailing colour is rosy purple, deepening on the lip. This is only one of the many in flower in this house, whence Mr. Bond has every justification for expecting to secure some decided acquisitions, though numbers of the young ones will not be in flower for a considerable period.

It was mentioned in the third paragraph that several of the pots were stood on others, and it is remarkable the way the roots of the plants cling to these and pass down through the open staging. Stooping to look beneath this the sight seen was nothing less than a perfect network of healthy roots, with which plants could scarcely be in other than fine condition. Pleasantly the time sped away—all too quickly, in fact—and soon the time arrived for departure, though enough was snatched from the Orchids to look at the vegetables, the fruit, and the flowers, also for a climb to a hill top for a view of some of the most delightful scenery in Surrey. The few minutes to spare prior to the arrival of the train was well spent in looking again at the station garden ere we were carried away to London and the smoke.—H. W.

ROYAL HORTICULTURAL SOCIETY.

DRILL HALL, JUNE 23RD.

THE exhibition held in the Drill Hall on the above date was comparatively small, the Orchids especially being very limited in numbers. Hardy flowers were numerous, and made a pleasingly bright display. Vegetables and fruit were sparsely staged, Strawberries and Melons being most in evidence. With this scarcity of plants and flowers there was also a scarcity of visitors.

FRUIT COMMITTEE.—Present: P. Crowley, Esq. (in the chair); with Rev. W. Wilks, H. J. Pearson, T. F. Rivers, G. Banyard, J. Cheal, G. Norman, A. F. Barron, T. J. Saltmarsh, J. Smith, T. Fife, F. Q. Lane, G. Wythes, J. H. Veitch, G. Sage, T. Glen, T. H. Crasp, C. Herrin, A. Dean, and J. Wright.

Messrs. Laxton Bros. sent boxes of Monarch Strawberries; very handsome fruits (vote of thanks); the variety having been previously certificated.

Mr. Owen Thomas sent from Windsor beautiful fruits of Tomato Royal Windsor, resembling the Blenheim Orange. To be tried at Chiswick. Mr. Thomas also sent a fine collection of Strawberries, including three seedlings—Baron Schröder, a very dark roundish fruit; Dr. Masters, a President-shaped fruit; and Sir Trevor Lawrence, large, conical and wedge shape; under-ripe. In addition were twenty other dishes of splendid fruits, also twenty dishes of Cherries, and a box of Frogmore Prolific Cucumbers (silver Banksian medal).

Mr. J. H. Fraser, 13, Scots Street, Annan, sent a seedling Strawberry, Thomas Carlile, a very abundant bearer of large fruits. Passed.

Mr. P. Blair sent from Trentham grand fruits of Lord Napier Nectarine, and a cultural commendation was promptly awarded.

Several Melons were exhibited and conscientiously tasted; several were bad, a few fair, one or two nearly good, but not one obtained any award.

Messrs. James Veitch & Sons sent seventeen varieties of Peas (vote of thanks).

Mr. T. H. Crasp, Osberton Manor Gardens, staged fourteen handsome Queen Pines and a number of Melons (silver Knightian medal).

FLORAL COMMITTEE.—Present: W. Marshall, Esq. (in the chair); with the Rev. H. H. D'Ombraim, the Rev. G. H. Engleheart, and Messrs. H. B. May, R. Dean, H. Selfe Leonard, J. F. McLeod, R. B. Lowe, C. E. Pearson, W. Bain, T. Peed, G. Gordon, J. W. Barr, J. T. Bennett Poë, H. Herbst, J. Walker, and J. Jennings.

Mr. Hazelby, Hampton, sent plants of a dwarf growing Ivy-leaved Pelargonium with compact habit and very floriferous. From Messrs. Young & Dobinson, Stevenage, came a collection of hardy flowers, comprising Delphiniums, Campanulas, Sweet Williams, Iceland and Shirley Poppies, Gaillardias, Antirrhinums, and Roses (bronze Banksian medal). Mr. H. B. May, Upper Edmonton, sent plants of a new dwarf white Marguerite nivalis compacta of floriferous habit. Mr. Geo. Abbey, gardener to Mrs. North, Eltham, sent a collection of a seedling Pansy, Col. J. T. North. A group of seedling Coleuses came from Messrs. E. J. Sargent & Co., Worthing, the foliage of which in many cases was large and elegantly marked. A few border Carnations were shown by Mr. Jas. Douglas, Bookham, including Exile, Constancy, and Mrs. Colley Sharpin. Mr. E. Jackson, Stroud, also sent a seedling Carnation.

Messrs. Ivery & Son, Dorking, showed plants of Clematis Lady Ashcombe, a large flowering blue variety. Several fine boxes of Roses were shown by H. V. Machin, Esq., Worksop, the best flowers being Mrs. John Laing, Louis Van Houtte, Fisher Holmes, Anna Ollivier, Madame Gabriel Luizet, Catherine Mermet, A. K. Williams, Camille Bernardin, Charles Lefebvre, and Jeannie Dickson (silver Flora medal). Arnold Moss, Esq., King William Street, E.C., sent flowers of a white Iris anglica Mont Blanc. Several spikes of Alstroemeria splendens were shown by C. F. Thompson, Esq., Swansea. Messrs. R. Wallace & Co., Colchester, sent a pleasing collection of flowers, in which Calochorti were conspicuous, comprising such varieties as C. luteus, venustus, venustus oculatus, venustus roseus, venustus vesta, and venustus citrinus. Lilioms, Brodiaeas, and Irises were also included, the whole making up an effective display (silver Flora medal). Mr. Henry Eckford, Wem, staged a large collection of Sweet Peas, amongst which were included many charming varieties, such as Emily Eckford, Lovely, Countess of Radnor, Royal Rose, Dorothy Tennant, Her Majesty, Mrs. Eckford, Princess of Wales, Chancellor, Venus, Little Dorritt, Duchess of York, Duke of York, Blushing Beauty, and Triumph (silver Flora

medal). Mr. G. A. Gardner, gardener to Mrs. Dashwood, Crayford, showed plants of a *Coleus* Mrs. Dashwood.

Plants of *Gloxinia Aigburth Gem* came from Messrs. Dobbie & Co., Rothesay, who also showed a new *Antirrhinum* Yellow Queen, and Sweet Williams. Mr. A. Perry, Winchmore Hill, sent several bunches of hardy flowers, which included *Agrostemma Walkeri*, *Geum Heldreichi*, *Campanula glomerata alba*, Pink Snowflake, and *Aster pumila coelestis*. W. G. Soper, Esq., Caterham, sent plants of *Dimorphotheca Eckloni*. A varied collection of hardy shrubby flowers came from Messrs. J. Veitch & Sons, Chelsea, amongst which were noticed *Cornus stricta*, *Meliosma myriantha*, *Galax aphylla*, *Andromeda speciosa cassinefolia*, *Cytisus nigricans*, and *Escallonia Phillipiana* (silver Banksian medal). Mr. Bain, gardener to Sir Trevor Lawrence, Dorking, sent hardy flowers, comprising seedling *Alstroemerias*, *Crinums*, and *Pentstemons*.

Messrs. J. Peed & Sons, Norwood, sent plants of a scarlet Carnation Miss C. Measures. Flowers of *Magnolia tripetala* were shown by Mr. E. Burrell, gardener to Her Grace the Duchess of Albany, Esher. Messrs. J. Laing & Sons, Forest Hill, sent several tuberous *Begonias*, including Richardson's Favourite, a floriferous scarlet *Begonia* of charming pendulous habit. Messrs. Barr & Son, Covent Garden, occupied a large space of tabling with hardy flowers, which included *Violas*, *Irises*, *Delphiniums*, *Gaillardias*, Iceland Poppies, *Epilobium angustifolium*, *Liliums*, *Agrostemma coronaria*, *Centaureas*, and Sweet Peas (bronze Flora medal). Messrs. H. Low & Co. sent some well grown plants of *Statice profusa*; while Messrs. F. Sander & Co. staged *Eriocnema candida*, *Anthurium Andreanum* Kelly's var., and *Asparagus tenuissimus albanense*. Messrs. R. Gibson & Sons, Sunderland, sent flowers of *Calceolaria Gloriosa*, and blooms of Sweet Pea Red Riding Hood came from Sunset Seed and Plant Co., San Francisco.

ORCHID COMMITTEE.—Present: H. J. Veitch, Esq., in the chair; with Messrs. J. O'Brien, De B. Crawshaw, H. M. Pollett, H. Ballantine, W. H. Protheroe, J. T. Gabriel, H. J. Chapman, W. H. White, E. Handley, W. Cobb, J. Douglas, S. Courtauld, A. H. Smee, and T. B. Haywood.

The group of Orchids from Mr. W. H. White, Orchid grower to Sir Trevor Lawrence, Bart., Burford Lodge, Dorking, was conspicuous rather for the quality of the plants it comprised than for their numbers. All were good and of much interest, and *Rhynchostylis retusa*, *Catasetum Bungei*, *Dendrobium crystallinum maximum*, *Epidendrum variegatum*, *Cirrhopetalum nutans* variety, *Aërides multiflorum* Lobbi, *Cypripedium superbiens*, *Miltonia vexillaria*, *Renanthera Storeyi*, and *Epidendrum Frederici Guilielmi* were each noticed (silver Flora medal). Mr. W. Rapley, gardener to H. Grinling, Esq., Stanmore, sent a fine variety of *Cattleya gigas* named *Imperialis*; W. G. Soper, Esq., Caterham, *Gongora maculata*; and Mr. N. Brandford, Southampton, two varieties of *Cattleya gigas*.

A small group of *Cattleyas*, consisting principally of varieties of *Mossiae*, came from Messrs. H. Low & Co., Upper Clapton; while Mr. G. Oragg, gardener to W. C. Walker, Esq., Winchmore Hill, sent several spikes of cut Orchids, of which the most conspicuous were *Stanhopea Wardi*, *Cattleya gigas* *Claudi*, C. G. Walker's variety, C. Mendeli, and C. glandulosa *Schofieldiana*. Mr. W. S. Barrell, gardener to W. S. Ellis, Esq., Dorking, staged varieties of *Odontoglossum crispum* in splendid form, with *Cattleya gigas* and *Lycaste Deppei*. Mr. P. Blair sent from Trentham *Odontoglossum Alexandræ* Duke of Sutherland, a white variety of merit (silver Banksian medal); while Mr. W. H. Young, Orchid grower to Sir F. Wigan, East Sheen, sent flower spikes of *Miltonia vexillaria chelsoniensis*. A few other odd Orchids were staged, but want of space precludes our particularising them.

The finest Orchid exhibit in the hall was undoubtedly that staged by Messrs. J. Veitch & Sons, Chelsea, which contained many finely grown plants carrying superb flowers. *Cattleyas* were splendid, and comprised *Mossiae*, *Mendeli*, with several *Lælio-Cattleyas*, such as *Canhamiana alba*, *eximia*, *regalis*, and others. Besides these there were *Cypripediums*, *Odontoglossums*, *Dendrobiums*, *Disas*, and others (silver Flora medal).

Messrs. F. Sander & Co., St. Albans, arranged a bright group, consisting of good specimens of *Cypripedium Neptune*, C. *Io grande* × C. *Rothschildianum*, *Angræcum Chailluanum*, *Phaius Owenianus*, *Dendrobium primulinum*, *Cattleyas Gaskelliana* and *gigas*, *Lælia tenebrosa*, and several *Odontoglossums*.

Competitive Classes.—There was one class for a collection of hardy flowers, distinct, and Mr. M. Prichard, Christchurch, secured the premier prize for a handsome exhibit; Messrs. Barr & Sons, the only other competitors, being second. In a class for twelve bunches of hardy flowers Mr. G. Herrin, Dropmore, was first; and Mr. G. H. Sage second. Miss Debenham, St. Albans, was first for eight bunches of hardy flowers.

CERTIFICATES AND AWARDS.

Asparagus tenuissimus albanense (F. Sander & Co.).—A graceful and useful variety of dwarf growing habit (award of merit).

Anthurium Andreanum, Kelly's variety (F. Sander & Co.).—The spathe of this variety is large, and strikingly handsome. The colour is clear salmon pink (first-class certificate).

Anthurium Lawrenceanum (Sir Trevor Lawrence).—The spathe of this *Anthurium* is broad, and of a shining waxy whiteness; the spadix, which is rather short, being also of the same colour (first-class certificate).

Calochortus Eldorado (R. Wallace & Co.).—Evidently a strain of much diversity and beauty (award of merit).

Chrysanthemum (Marguerite) nivalis compacta (H. B. May).—A very dwarf, free blooming, small flowered white *Marguerite* (award of merit).

Cypripedium superbiens (W. H. White).—So well is this Orchid known, that any description here would be superfluous (first-class certificate).

Cypripedium Neptune (F. Sander & Co.).—This is a hybrid resulting from a cross between C. *Io grande* and C. *Rothschildianum*, and both in the dorsal sepal and petals this hybrid partakes strongly of the last named parent. In each of these parts of the flower the ground colour is green suffused with rose at the edges and the tip, and heavily spotted with chocolate brown; the pouch is claret. The flower is large and bold (award of merit).

Canna Thalia (Jas. Veitch & Sons).—This is a fine *Canna* with large flowers, the petals of which are deep canary yellow blotched with orange scarlet (award of merit).

Carnation, Hope (H. Rowe).—Pure white is the colour of this clove-scented variety. The flower is of medium size and good substance (award of merit).

Geum Heldreichi (A. Perry).—A floriferous *Geum* with rich orange scarlet coloured blooms (award of merit).

Iris Kämpferi Chigo (Barr & Son).—This is a large flowering variety, with broad fall petals of purplish blue streaked with lines of white (award of merit).



ROSE SHOW FIXTURES IN 1896.

- June 25th (Thursday).—Hereford, Southsea.*
 „ 27th (Saturday).—Canterbury and Windsor.
 „ 30th (Tuesday).—Maidstone and Sutton.
 July 1st (Wednesday).—Croydon, Ealing, Farnham, Farningham, and Leatherhead (Brockham Rose Association).
 „ 2nd (Thursday).—Bath, Eltham, and Norwich.
 „ 4th (Saturday).—Crystal Palace (N.R.S.).
 „ 7th (Tuesday).—Harrow, Wolverhampton.†
 „ 8th (Wednesday).—Canterbury (Hospital Fête), Chelmsford, Hitchin, Lee,* Newcastle-on-Tyne,† Redhill (Reigate), and Tunbridge Wells.
 „ 9th (Thursday).—Helensburgh, Woodbridge, and Worksop.
 „ 11th (Saturday).—New Brighton.
 „ 14th (Tuesday).—Westminster (R.H.S.).
 „ 15th (Wednesday).—Ulverston (N.R.S.).
 „ 16th (Thursday).—Halifax.
 „ 21st (Tuesday).—Tibshelf.
 „ 25th (Saturday).—Manchester.
 „ 29th (Wednesday).—Chesterfield.
 „ 30th (Thursday).—Trentham.
 Aug. 5th (Wednesday).—Chester.*
 „ 19th (Wednesday).—Shrewsbury.*

† A show lasting three days. * A show lasting two days.

Any dates not appearing in the present list I shall be glad to publish in the next one.—EDWARD MAWLEY, *Rosebank, Berkhamsted, Herts.*

BATH ROSE SHOW.

As will be seen in our advertising columns, the Bath Floral Fête and Committee are making active preparations for a great Rose and Begonia show on July 7th. The prizes offered for Roses are such as ought to secure a large number of entries and brisk competition.

GEORGE PRINCE MEMORIAL PRIZE FUND.

As the Rose exhibitions are now commencing, when we shall miss the kindly greetings of our late esteemed friend, I would venture to ask those who have not already subscribed to this memorial of one who did so much to increase our interest in the beautiful class of Tea Roses that he so skilfully cultivated, if they would let me have some contribution towards it. The list will be closed shortly after the exhibitions are over, and I should therefore be glad to receive any contributions to the fund.—D., Deal.

BUSH ROSES.

In the churchyard at Bookham, Surrey, a few days since I saw a really grand clump of the old *Noisette multiflora* literally smothered with bloom. The clump would have been none the worse had someone kindly removed some dead growths, but still the bush, which was from 7 to 8 feet through, was a very beautiful object. I could but think were a large lawn planted with cluster Roses of this nature singly and allowed to become dense bushes or masses, if not too crowded, how beautiful would be the effect. One gets tired of the stereotyped standard and the hard-pruned bush Teas, and H.P.'s, so much prized by their growers because they win prizes or are "up to date." If besides some of the old *Noisettes* we could see huge bushes like this Bookham specimens of *Crimson Rambler*, *Paul's Carmine*, *Lord Penzance's Briars*, and hosts of others, including the Scotch and Persian varieties, what a glorious Rose garden would be created.

THE COLCHESTER ROSES.

BRILLIANT and more numerous than ever must be our verdict after spending Thursday, the 18th inst., at the show—the Rose feast—in the Rose fields, and acting as juror at the great Rose and general show, the finest, so it is said, yet held at Colchester. As usual, we had heard many gloomy reports of the want of growth among Roses, as well as many insect plagues of grubs, aphides, thrips—the products of the long drought and the scourge of east winds. But as we enter the Colchester Land of Goshen for Roses the mealy mildew shrinks to the puniest dimensions, and the Roses appear in their marshalled thousands green as Leeks, gay as butterflies, pure as Lilies, and brilliant and beautiful—well, as Colchester Roses.

Higher praise cannot be given, and they deserve it more than ever this year. The day before the home battle of the Roses Colchester won many honours at York, and simultaneously with the home muster on the 18th Colchester almost swept the tables of chief honours at the Isle of Wight; and those who know its resources to-day—and for the next month best—would hardly wonder if its growers swept the field bare of prizes for the next month. The growing popularity of garden Roses, and of showing Roses tastefully in vases, are two of the most gratifying incidents most visible on the surface. The proud position of three such old favourites as Charles Lefebvre, Marie Baumann, and A. K. Williams is another. The thirst for novelty has run after old favourites of late. This sentence, though it sounds like an Irish bull, really expresses a truth as suggestive as profound. The land under Roses is still extending its widening sway over broader acres and wider arcas. The rosarians are mostly the owners of their Rose fields. This fact enables them to grow their Roses as they like, and to crop their grounds very much, and generally on the two-course system. A first crop of Roses, to be succeeded by one of Barley or Oats, to be followed again by Roses, and so on, and so on, to fame and fortune. Roses are too spiritually minded to be greedy after nitrogen, so that I have not heard nor seen a Pea or Pulse crop interposed in the rotation. I also saw some Roses cut back on the 18th that had been on the same ground for seven years, and seemed nothing the worse for feeding at the same table, with a loose surface for their tablecloth, through that long period.

Still Roses do get soil sick, as most private growers find out to their cost in their contests with the trade. Not a few of the victories of the latter over the former in the open classes are largely owing to the unlimited use of maiden plants or maiden soils, or two or other courses of cropping by the trade. Another feature of the Colchester Rose trade is that the sons are following the fathers. The veteran grower, Mr. Benjamin Cant, is assisted by his two sons. Mr. Frank Cant, who entertained the rosarians at luncheon in his splendid grounds at Braiswick, has also one or more boys, who it may be hoped will better their father's instructions in Rose culture in the very distant future.

On the whole the Rose show was one of the best yet held at Colchester. All classes of Roses were fully represented, and many of the blooms were as near perfection as possible. Madame Hoste took the silver cup for the best Tea in the show, and Marie Baumann the corresponding cup for the best Hybrid Perpetual. Chas. Lefebvre also did his best to prove that he is still the finest dark Rose in the world, though A. K. Williams and others ran him hard. La France, François Michelin, Mrs. John Laing, Caroline Testout, Ulrich Brunner, A. K. Williams, Horace Vernet, The Bride, Souvenir de S. A. Prince, Rubens, Marie Van Houtte, Hon. Edith Gifford, Comtesse de Nadaillac were among the finest Teas. Among novelties the Golden Gate had but little gold in it; Rainbow, a long budded Hybrid Tea, is likely to have a long career as a garden Rose; while Mrs. Sharman Crawford, Captain Hayward, Olio, and Marchioness of Downshire are promising novelties. Mrs. John Laing also holds its own, as well as one of the softest pink Roses. There is, however, no fear of its superseding La France, which still stands first with the trade and town decorators as the most popular of all Roses. Lord Penzance's seedling Briars are remarkably well grown and shown around Colchester. Such varieties as Brenda, Lady and Lord Penzance, Meg Merilies, and others being dwarf in habit, brilliant in blossom, and of the true Sweet Briar type and form.

One of the prettiest exhibits of garden Roses was contributed by Mr. Orpen, who takes such a keen interest in the horticulture of the district. These comprised, among others, Bardow Job, C. Jacquier, Beauty of Gierstein, Paul's Single White, Gustave Regis, Rainbow, Brenda, Perle d'Or, Moschata Alba, Hébé's Lip.—D. T. F., *Edinburgh*.

ISLE OF WIGHT SHOW.

THE annual exhibition of the Isle of Wight Rose Society was held at Ryde on Thursday last, June 18th. Taking advantage of the spacious and pretty pavilion recently erected at the end of Ryde Pier, the Committee decided to try the experiment of holding the Rose show there. The result was a decided success; everything tended to make it so. The weather was fine, balmy, and breezy, many visitors coming from the mainland by steamboats to visit the show, and enjoyed the sights as well as the sea breeze. The only drawback was a want of regulation between the tables, which resulted in overcrowding through blocks of interested visitors attempting to view the flowers and going in opposite directions. The very fashionable assembly was a record one for the Society, and both the Rev. G. E. Jeans and Mr. E. V. Mathews, the Hon. Secretaries, and also the Committee, are to be congratulated on the result.

For twenty-four distinct varieties, Mr. B. Cant, Colchester, was first with a fine fresh stand of the following varieties—Marie Baumann, Caroline Testout, A. K. Williams, Marquise Litta, Chas. Lefebvre, Mrs.

C. Crawford, Etienne Levet, Gustave Piganeau, Marchioness of Londonderry, Dr. Sewell, M. Gabriel Luizet, Ulrich Brunner, Lady Mary Fitzwilliam, Madame Cusin, M. J. Perier, Marie Verdier, Abel Carrière, Her Majesty, Fisher Holmes, La France, Duchesse de Morny, Cleopatra, Mrs. John Laing (silver medal for the best bloom in the open classes), and Comte de Raimbaud. The second card went to Mr. Frank Cant; and Messrs. Keynes Williams & Co., Salisbury, and Mr. George Mount, Canterbury, were awarded equal third. For twelve Teas, Mr. B. Cant was first, Mr. F. Cant second, and Mr. George Prince, Oxford, third. In the class for eight trebles, Mr. B. Cant was again first, Mr. F. Cant second, and Mr. G. Mount third. For twelve of any one variety, Mr. Frank Cant was first with a good stand of Mrs. J. Laing, Mr. B. Cant second with Marquise de Litta, and Mr. G. Prince third with Countess de Nadaillac. For twelve bunches of garden Roses, Mr. Frank Cant made a display, and was awarded the first prize.

The chief classes confined to the island were for twenty-four, distinct, for which a silver challenge cup is offered, as well as money prizes; and a gold medal presented by Her Majesty the Queen for twelve Roses, distinct. These brought out good competition, the challenge cup going to J. Lee White, Esq., East Cowes, for a very fresh even stand; the second prize in this going to Mr. Gash, gardener to Sir Barrington



FIG. 99.—SIR TREVOR LAWRENCE.
President - R.H.S.

Simeon, Bart., M.P.; the third to Mrs. Croft Murray, Ryde. The coveted medal offered by Her Majesty the Queen was taken by Mr. George Kent, gardener to Major Murray, Ryde, with a very good stand, although somewhat marred by a bad bloom of Emily Hausburgh. The silver medal in this class went to the Rev. Dr. Morgan, Wootton, and the bronze medal to Mr. J. Lee White, Cowes.

In the class for twelve Teas, distinct, Mr. Gash, gardener to Sir Barrington Simeon, Bart., M.P., was a very good first, Mrs. Croft Murray second, and Lady Mary Hamond Graeme third. For twelve trusses, two varieties, Mr. G. Williams took first, Mr. G. Kent second, and Lady Hamond Graeme third. In another division Mr. J. O. Brook, Ryde, exhibited a very excellent stand of eighteen varieties and took first prize. Rev. J. Spittal, Dr. Chick Lucas, Rev. G. E. Jeans, Miss Carter, Lady Mary Gordon, Lady Daly, amongst others, were successful in some of the smaller classes. The medal for the best Roses from the Isle of Wight classes was awarded to Mr. Gash for an extra fine bloom of Innocente Pirola in his stand of twenty-four. Table decorations, vases of Roses, and epergnes formed an attractive feature, and the prizes were strongly competed for.

Mr. Nobbs staged a bank of plants in front of the orchestra from the Royal Gardens, Osborne, a fine *Adiantum gracillimum*, and a pair of *Dracenas* being much admired. Amongst other miscellaneous exhibits Mr. B. Ladhams, Shirley, near Southampton, staged an interesting collection of cut garden Pinks and other choice and beautiful hardy herbaceous plants, *Delphiniums* and *Alstroemerias* being very conspicuous.—C. ORCHARD, *Bembridge*.

READING.—JUNE 24TH.

ON Wednesday the National Rose Society held its Southern exhibition in the Forbury Gardens, Reading, in conjunction with the annual show of the Reading Horticultural Society. The Society may fully congratulate itself on this venture so far as the number and quality of the exhibits are concerned, as in the majority of instances competition was keen, and the flowers good.

The premier nurserymen's class was for forty-eight distinct blooms, in which Mr. B. R. Cant, Colchester, was first with a splendid stand, which comprised—(back row): Alfred Colomb, Lady Mary Fitzwilliam, Augusta Rigotard, Marchioness of Dufferin, Madame Henri Periere, Mrs. J. Laing, Victor Hugo, and Susanne Marie Rodocanachi, Gustave Piganeau, Marchioness of Lorne, Xavier Olibo, Her Majesty, Abel Carrière, Caroline Testout, Dr. Sewell, Duchess de Morny; (middle row): Horace Vernet, Marie Baumann, Madame Victor Verdier, Monsieur Noman, Charles Lefebvre, La Fraicheur, Fisher Holmes, Madame Eugène Verdier, A. K. Williams, Jeannie Dickson, Earl of Dufferin, Madame Hoste, Maurice Bernardin, Maman Cochet, Madame Crapelet, Baroness Rothschild; (front row): Comtesse de Ludre, Kaiserin Augusta Victoria, Duke of Teck, Thomas Mills, Prince Arthur, Camille Bernardin, The Bride, Prince C. de Rohan, Jean Soupert, Madame Cusin, E. Y. Teas, Ernest Metz, Ulrich Brunner, Madame Gabriel Luizet, Dr. Andry, and Edith Gifford. Messrs. Harkness & Sons, Bedale, were placed second, the stand displaying few weak points; and Mr. F. Cant, Colchester, took the third place, there being five exhibits in the class.

Eleven exhibitors competed in the class for twenty-four, and out of these Messrs. J. Townsend & Sons, Worcester, were placed first with—(back row): Heinrich Schultheis, Lady M. Fitzwilliam, Prince Arthur Marchioness of Dufferin, Gustave Piganeau, Marchioness of Londonderry, Alfred Colomb, Victor Verdier; (middle row): Merveille de Lyon, Xavier Olibo, Mrs. John Laing, A. K. Williams, The Bride, Louis Van Houtte, Comtesse de Nadaillac, Fisher Holmes; (front row): Abel Carrière, Francisca Kruger, Earl of Dufferin, Marie Van Houtte, Madame Victor Verdier, Anna Olivier, Pride of Reigate, and Catherine Mermet. Messrs. G. & W. H. Burch, Peterborough, took the second award; and Mr. Charles Turner, Slough, third.

In the class for twenty-four trebles Mr. B. R. Cant was a splendid first, showing superb flowers of Caroline Testout, Horace Vernet, Merveille de Lyon, Marie Baumann, Camille Bernardin, Madame Eugène Verdier, Thomas Mills, Madame Cusin, Mrs. John Laing, Gustave Piganeau, Mrs. G. W. Grant, Alfred Colomb, Fisher Holmes, Marchioness of Londonderry, A. K. Williams, Her Majesty, Lady Mary Fitzwilliam, Le Havre, Marchioness of Dufferin, Ulrich Brunner, Suzanne Marie Rodocanachi, Prince Arthur, and Baroness Rothschild. Mr. Frank Cant was a creditable second; Messrs. Harkness & Sons third.

Eighteen exhibitors competed in the class for twelve distinct blooms open to amateurs, for which Messrs. Sutton & Sons offered as first prize a silver cup valued at 10 guineas. The Rev. J. H. Pemberton, Havering-atte-Bower, took the coveted trophy with superb flowers of Her Majesty, A. K. Williams, Gustave Piganeau, Ulrich Brunner, Horace Vernet, Comtesse de Nadaillac, Charles Lefebvre, Mrs. John Laing, John Stuart Mill, Comte Raimbaud, and François Michelin. Mr. E. B. Lindsell, Hitchin, also showed good flowers for the second award, silver-gilt medal. Mr. C. J. Grahame, Leatherhead, was third, taking a silver medal, and Mr. O. G. Orpen as fourth obtained a bronze medal.

In the amateurs' class for twenty-four single trusses Mr. E. B. Lindsell was first in a keen competition, showing good blooms of Horace Vernet, La France, Ulrich Brunner, François Michelin, and others. The second prize fell to Rev. J. H. Pemberton, and the third to Mr. J. Gurney Fowler, Woodford. Eight exhibitors competed in the amateurs' class for eighteen distinct varieties, Mr. P. G. Burnard, Reigate, winning with a good all-round exhibit. The Rev. H. A. Berners, Ipswich, was a good second, and Mr. E. M. Bethune, Horsham, third. In the class for twelve distinct flowers, open to amateurs, Mr. R. H. Langton, Hendon, was first; Mr. M. Whittle, Leicester, second; Mr. O. G. Orpen, Colchester, third. For six distinct trusses Mr. G. Moules, Hitchin, was a good first in a keen competition of twelve exhibitors. Mr. W. D. Freshfield, Reigate, was a fair second; and Mr. H. C. Landon, Brentwood, third.

In the Tea and Noisette section Messrs. D. Prior & Son were to the front in the nurserymen's class for twenty-four. The exhibit comprised good flowers of—(back row): Souvenir de S.A. Prince, Ethel Brownlow, The Bride, Madame Hoste, Maman Cochet, Innocente Pirola, Catherine Mermet, Marie Van Houtte; (middle row): Souvenir d'un Ami, Perle des Jardins, Souvenir d'Elise, Jean Ducher, Hon. Edith Gifford, Etoile de Lyon, Alba rosea, Madame de Watteville; (front row): Rubens, Ernest Metz, Medea, Madame Cusin, Anna Olivier, Luciole, Francisca Kruger, and Caroline Kuster. Mr. Frank Cant was a good second; and Mr. B. R. Cant third.

Mr. John Mattock, Oxford, was first in the class for twelve single Teas. Messrs. Jas. Townsend & Sons were second; and Messrs. J. Burrell and Co., Cambridge, third. Messrs. D. Prior & Son were first for twelve trusses of any Tea, showing Marie Van Houtte in good form; Mr. J. Mattock was second; and Messrs. Harkness third. Messrs. D. Prior and Son were also to the front with twelve treble Teas, showing fine flowers. Mr. Frank Cant was second; and the third prize fell to Mr. B. R. Cant.

In the amateurs' class for eighteen Teas, distinct, Mr. O. G. Orpen was a good first. The Rev. H. A. Berners was a close second, and Rev. A. Foster-Melliar, Ipswich, third. For nine Teas Mr. C. Jones, Gloucester, was a good first, Mr. R. H. Longton second, and Mr. Jas. Parker, Oxford, third. Mr. C. Jones was first with six treble Teas, his best flowers being Francisca Kruger; Mr. O. G. Orpen was second, and Mr. A. H. Gray, Bath, followed with the third.



EVENTS OF THE WEEK.—The principal events of the ensuing week are numerous Rose shows in various parts of the country, the dates and places of which may be found on page 580.

— WEATHER IN LONDON.—Though rain has been reported from various parts of the country during the past week, no appreciable downfall has taken place in the metropolis, the result being that the want of moisture is again being felt. The grass in the public parks has assumed a brown, parched appearance. Rain is falling heavily as we write, and a continuance is hoped for.

— ROYAL SOVEREIGN STRAWBERRY.—In the "Jottings" in your last issue I see a question about the above Strawberry. The first dish was gathered here under a south wall on May 26th. What do other growers say about Gunton Park Strawberry? We had a fine dish of it on the 16th inst., large fruit, and of excellent flavour.—ARTHUR MESHAM, *Flintshire*.

— DEATH OF MRS. G. W. CUMMINS.—It is with extreme regret that we have to announce the death of Mrs. Cummins, wife of Mr. G. W. Cummins, gardener to A. H. Smee, Esq., The Grange, Carshalton. Mrs. Cummins had not been strong for some time, and passed away rather suddenly on Saturday night. She was an industrious, cheerful gardener's wife and devoted mother. Mr. Cummins is left with, we think, seven children, the youngest about two years old, and his many friends will mourn with him in his great bereavement.

— BLACKBERRIES.—It does now seem so certain that there will be but a very restricted crop of cultivated hardy fruits, that some attention may well be bestowed on our native Blackberry. These hedgerow fruits are blooming very early and profusely, and no doubt there will be a heavy crop later if sufficient moisture falls. It was odd that whilst we have such easily grown varieties indigenous to England, we should have gone to America for other varieties; these, however, have not been with us great successes. I wonder whether anyone has ever endeavoured to cross the cultivated Bramble, the best of the Americans, with any good native form. Such a cross is decidedly worth trying; so also would be the saving of particularly fine berries from hedgerow Brambles, and sowing the seed, giving the product good cultivation in strong holding soil, and with annual pruning such plants might give highly profitable crops.—D.

— THE LATE MR. BRUCE FINDLAY.—It is with sincere regret we have to state that another well-known horticulturist has passed away in the person of Mr. Bruce Findlay, the well-known Superintendent of the Botanical Gardens, Old Trafford, Manchester, and Secretary of the Manchester Botanical and Horticultural Society, who died late on the evening of June 16th. Mr. Findlay had been ailing for a considerable time, but the general impression was that his health was improving. We are informed, however, that a relapse occurred, which was rapidly followed by death. Mr. Findlay was born at Streatham, in Surrey, and some of his earliest experience was, we believe, gained in Rollisson's Nurseries at Tooting. While still a young man he was appointed at Old Trafford as successor to the late Mr. Campbell, and since that time (1858) he has steered the Society with a skilful hand through many ups and downs. We join with our readers in offering condolence to his sorrowing relatives, and as a tribute to the deceased horticulturist no words of ours could be more fitting than the following, which appeared respecting him from the pen of a correspondent in the *Journal of Horticulture* in 1881:—"Mr. Findlay is a gentleman of calm demeanour, sound judgment, extensive knowledge, great professional attainments, and never fails to accomplish what he undertakes. From the time he came to Manchester he has gradually risen in public esteem and confidence—both rich and poor respect him. Amongst friends and acquaintances he is very social, and an excellent conversationalist. His society is coveted and sought by the wealthy around him. He is interested in the progress of horticulture, willingly writes and reads papers to help in the formation of small societies of gardeners, is always anxious and willing to help respectable gardeners seeking situations, and is very frequently applied to for gardeners to fill vacant places. He is enthusiastic in his profession, and in all respects is an excellent man."

— INDEX WEEK.—In consequence of the space required by the index of the half year's volume just completed, the publication of several articles and notes of interest is necessarily postponed.

— GARDENING APPOINTMENT. — Mr. Geo. Sutherland, late gardener to Mrs. Lloyd Rayner, has been appointed head gardener to Alexander Jopp, Esq., Woodhill House, Aberdeen.

— CAMBRIDGE HORTICULTURAL SOCIETY.—This flourishing Society held its exhibition of fruit, flowers, and vegetables in the gardens of King's College, Cambridge, on June 18th. A new and special feature of the show was the open competition for Roses, in which Messrs. J. Burrell & Co., Cambridge, took first prize in the class for twenty-four. Messrs. D. Prior & Son, Colchester, were to the front in the class for twelve Teas or Noisettes. Mr. W. Finch of Coventry set up two fine groups of plants, both of which gained first prizes. British Ferns were admirably shown by Mr. J. Hall, Cambridge, and hardy flowers came from Messrs. Paul & Son, Cheshunt. Fruit and vegetable classes were well represented by capital produce. The weather left nothing to be desired, and the arrangements were admirably carried out by the Hon. Sec., Mr. A. Matthews, who was loyally supported in his efforts by a hard-working Committee.

— ROYAL METEOROLOGICAL SOCIETY.—The last meeting of this Society for the present session was held on Wednesday evening, the 17th inst., at the Institution of Civil Engineers, Westminster, Mr. E. Mawley, F.R.H.S. (President), in the chair. Mr. H. Harries read a paper on "Arctic Hail and Thunderstorms," in which he showed that the commonly accepted opinion that hail and thunderstorms are almost, if not quite, unknown in the Arctic regions is incorrect. He had examined 100 logs of vessels which had visited the Arctic regions, and found that out of that number no fewer than seventy-three showed that hail was experienced at some time or other.

— ENGLISH Strawberries, of which there are now an abundance, have ousted the Continental fruit from our markets. Immense quantities are now being sent from Swanwick, Bursledon, and district to the London and provincial market. Some idea of the traffic in Hampshire Strawberries may be gathered from a statement of the fact that 25,000 of the familiar cross-handled baskets of fruit were received at Waterloo Station on Saturday last. The recent rains have been of considerable assistance in swelling the fruit of the main crop varieties. The early varieties suffered severely from the drought in Kent, and in one of the cases that have been brought to our notice a field of 10 acres did not furnish a single gathering.

— ROYAL PARKS AND GARDENS.—The revision of the rules governing the parks in the London district and at Edinburgh has engaged the attention of the authorities for some time past. The work has been completed, and in the "London Gazette" of Tuesday last it is officially announced that it is the intention of His Royal Highness, the Ranger of Hyde Park, St. James's Park and the Green Park, and Richmond Park and Green, and the Commissioners of Works to make new rules for those parks; also that it is the intention of the Commissioners of Works to make new rules for Kensington Gardens, Parliament Square Garden, Regent's Park, Primrose Hill, Greenwich Park, Kew Gardens and Pleasure Grounds, Kew Green, Hampton Court Park, Hampton Court Gardens, Hampton Court Green, Bushey Park, Holyrood Park, Linlithgow Peel or Park, Royal Botanic Garden and Arboretum, Edinburgh, Victoria Tower Gardens, and Natural History Museum Gardens.

— UNRIPE STRAWBERRIES.—The enormous quantity of splendid Strawberries picked before they are ripe, in many cases barely half ripe, is a source of great dissatisfaction to an old-fashioned gardener like myself, who likes to see everything at its best. That the growers for sale are wise in picking them in this condition is undoubted, for they travel better, run less risks from birds and rotting, and above all the public do accept them. But if buyers would combine, refuse to accept many samples now offered, and demand riper fruit, I think they would at all events get an improvement. The extraordinary thing is that it is rare nowadays to find well-ripened Strawberries, especially the larger specimens, on the tables of those who have grown them in their own gardens. Why, even my children, accustomed to ripe fruit at home, complain on their return from a visit or party of the unripeness of the Strawberries set before them at country houses. There should be no excuse in a season like this for picking the fruit for home consumption before it is thoroughly ripe. I suppose gardeners become demoralised by the shocking specimens they see offered for sale, and think that "it will do" if they gather their fruit in the same condition.—W. R. RAILLEM.

ROYAL GARDENERS' ORPHAN FUND.

ANNUAL DINNER.

THIS most deserving gardening charity held its annual dinner in the Whitehall Rooms, Hotel Metropole, on Thursday evening last, under the Chairmanship of His Grace the Duke of Bedford, President of the Fund, supported by the Rt. Hon. Sir Edward Malet, G.C.B., T. Skewes Cox, Esq., M.P., Dr. Maxwell T. Masters, Messrs. W. Marshall, Arnold Moss, J. H. Veitch, and a large company of well-known horticulturists. Several vacant chairs were noticed, this being owing to the fact that some who would no doubt have been present were serving on the R.H.S. deputation at York. In spite of this the dinner was a great success, and we have much pleasure in stating that the funds of this charity, which bestows its charity on those who are fatherless and helpless, were augmented to the extent of £854 18s. 6d. Miss Hudson was again responsible for the floral decoration of the tables, an operation which she carried out in her usual tasteful manner.

His Grace, after proposing the usual loyal toasts, rose to give that of the evening, "Success to the Royal Gardeners' Orphan Fund," and in course of a short but concise speech, said it was close connection with Covent Garden Market that familiarised him chiefly with gardening operations—(cheers)—and amongst those present he could see the faces of many of his own tenants, who had done and were doing so much for the welfare of the charity. His Grace went on to say that he had no claim to be considered a gardener, and the gardens that appealed to him most were those of working men. (Cheers.) As a preference his inclination lay in the direction of country life before that of the city, but they knew this was not generally so, as people were now inclined to leave the country for the more exciting attractions of the towns. This he thought deplorable, as it did not tend to bring about a happier or healthier condition.

Turning to the Royal Gardeners' Orphan Fund he was glad to say that its financial position was most satisfactory—(cheers)—as there had been a gain during the year of nearly £800, and it had an invested fund of £8570. Last year relief was given to sixty-one orphans, and now seventy were in receipt of its benefits. They had to deplore the death of Sir Julian Goldsmid, Bart., who was an ardent supporter of the Fund. The working of the Fund was most economical, as the year's office expenses only amounted to £122. It had been found necessary to have a paid Secretary, and to fill this office Mr. A. F. Barron had been appointed. In conclusion, he would advocate the claims of the charity by appealing to those present for support. He would couple with the toast the name of Mr. W. Marshall, and he hoped that all would try and further the interests of the Royal Gardeners' Orphan Fund, and in advocating its claims try and spread the knowledge of gardening throughout the country. (Cheers.)

Mr. W. MARSHALL, in reply, regretted the unavoidable absence of several gentlemen, and said there were one or two points to which he should like to call the attention of those present. In going through Covent Garden Market he had heard that there was an impression held there that this Fund was for the benefit of *bonâ fide* gardeners alone, and that children of those employed in the great Market were not eligible. He would take this opportunity of assuring them that such was by no means the case, and if there are any instances where relief was necessary they would receive attention. (Cheers.) One more point he would like to touch on was that he had been a member of the Executive Committee of the Gardeners' Orphan Fund for the past six years, and he would like to return his thanks to the other members of that body for the kind and courteous manner in which they had always treated him. He did not think there could be a better set of men than those who formed the Committee, who did everything thoroughly, and for the benefit of the charity.

The toast of "Gardeners and Gardening" was given by Mr. T. SKEWES COX, M.P., who, in course of a somewhat amusing speech, said that the gardener had figured in the earliest history of the world, and in thinking of gardeners who had been noted the names of such men as Sir Joseph Paxton and Capability Brown came forcibly to the memory, and he was glad to say that he counted amongst his constituents many leading nurserymen and florists. Mr. Skewes Cox spoke highly of gardening institutions, including Kew and Chiswick, going on to say that the Banksian medal, offered by the Royal Horticultural Society, had been won by the Richmond Allotment Society, and as fitting the occasion the medal had been received in all honour by the Mayor and Corporation, and it now occupied a prominent position in the Richmond Free Library. He would conclude by coupling with the toast the name of Mr. W. Poupart, than whom a better gardener never lived. (Cheers.)

Mr. POUPART, in response, said there had never been such a number of market growers and salesmen at any of these meetings. They had come to welcome His Grace the Duke—their landlord—(cheers)—who was the owner of the greatest fruit and vegetable market in the kingdom, or in fact, in the world. (Cheers.) Covent Garden is at any rate the centre, continued Mr. Poupart, and they would have some idea of the enormous development of the trade when he reminded them that there were those in Covent Garden who remembered when the flower market was carried on outside the porticos of St. Paul's Church. Now they have a grand flower market and a trade that has increased till it is the finest in the kingdom. In Covent Garden, continued Mr. Poupart, may be seen a flower show equal to anything, for there could be got flowers to suit the West End, and likewise the lowest slum, and he should not like to say to which residents it provided the greatest amount of

pleasure. He would like to mention the names of a few who had earned success as growers of flowers and fruit under glass, such as Messrs. T. & J. Rochford & Sons, Piper, Peter Kay, and Mr. Jas. Sweet. That such men are abreast of the times is proved in the fact that now growers send as many as 100 tons of Grapes to the Market in the year; a few years ago the whole supply was obtained from the surplus of gentlemen's gardens. He was sorry to say that there were not enough market salesmen who were subscribers to these gardening charities, and he asked all those present to make it known in the Market and elsewhere that the Institutions are for their good. (Cheers.)

Dr. M. T. MASTERS, in proposing the health of the Chairman, said he was sure all would join him in expressing their heartfelt thanks to His Grace for being present on that occasion. Reference had been made to the Duke's connection with Covent Garden Market. He knew something of the growth that had been made there, as for the last thirty years his life had been spent close to it, and he could, therefore, remember the time when it was very different than is at present the case. Dr. Masters went on to speak of the experimental station that has been started through His Grace the Duke of Bedford. Such stations were common on the Continent and in the United States, but up to the



FIG. 100.—MR. PHILIP CROWLEY.
Treasurer—R.H.S.

present we had only ten in England, and for two of these the Duke of Bedford was responsible. In looking back over the history of horticulture a great deal of the advance that had been made was owing to the powerful interests of the Dukes of Bedford. This was one reason why it was so appropriate that the Duke should preside over them on that occasion. (Cheers.) Dr. Masters concluded by making some interesting references to former Dukes in connection with horticultural and arboricultural literature.

His Grace appropriately replied, thanking them for drinking his health, and adding that if by his presence he has benefited the Institution at all he should consider he had spent a profitable and enjoyable evening.

Mr. B. WYNNE read out the subscription list, which included His Grace the Duke of Bedford, £200; Messrs. R. Tait, £50; N. Sherwood, £25; Rothschild, £26 5s.; A. de Rothschild, £22 10s.; Jas. Veitch and Sons, £10 10s.; W. G. Head, £10; R. Dean, £8 8s.; Bertram, £5 5s.; G. Barham, £5 5s.; Adams, £5; Cuthbert, £5; J. M'Leod, £5 13s.; A. W. Sutton, £5 5s.; Dicksons, Ltd., 5s.; P. Barr & Son, £5 5s.; E. Gilbert, £6 16s.; Jas. Douglas, £5 5s.; and Baron Ferdinand de Rothschild, £5 5s.; Baron Schröder, £10 10s.; Sir Trevor Lawrence, £5 5s.; Mrs. Wills, £5; from the salesmen in Covent Garden Market, £300, and other sums making up a total of £854 18s. 6d., the announcement of which was received with much cheering.

The health of the visitors was proposed by Mr. Arnold Moss, the Right Hon. Sir Edward Malet responding. Music, both vocal and instrumental, was provided by Mr. Herbert Schartau, which added considerably towards the pleasure of the evening.

HORTICULTURAL SHOWS.

YORK GALA.—JUNE 17TH, 18TH, AND 19TH.

SOME reference was made in our last issue to the thirty-eighth Yorkshire Gala, which was in progress in the Bootham Asylum Grounds, York, at the time of our going to press. A grand success it was without doubt, though the inclement weather on the first day interfered considerably with the arrangements, and not a little with the comfort of the visitors. Though numerous festivities were provided, the flower show was, of course, the chief attraction, and taken as a whole it was the finest ever held in the famous old city. Previous successes have no doubt inspired the Committee to still greater efforts than heretofore, for whereas the largest amount previously offered as prize money has been £650, this year it has been increased to £750. Another important item in connection with this year's show was the pioneer visit of a deputation from the Royal Horticultural Society, which, as stated in our last issue, comprised Sir Trevor Lawrence, Bart., Rev. W. Wilks, and Messrs. P. Crowley, S. Cortauld, T. B. Haywood, H. Selfe Leonard, W. Thistleton Dyer, Harry J. Veitch, Malcolm Dunn, and James Hudson. These gentlemen were most cordially entertained, and great interest shown in their visit by Alderman Sir Joseph Terry, the Lord Mayor of York, the City Sheriff, the Dean of York, Mr. Charles W. Simmons, the Secretary of the Society, and other officials.

In addition to the reception dinner on Tuesday and the public luncheon on Wednesday, referred to last week, the Lord Mayor gave a dinner at the Mansion House on Wednesday evening, Sir Trevor Lawrence, Bart., Rev. W. Wilks, and Messrs. P. Crowley, H. J. Veitch, and J. Wright being amongst the guests. The same gentlemen were entertained at luncheon by the Sheriff on Thursday, after the Lord Mayor had accompanied them to the Cathedral, driven them round the city, and to the beautiful nurseries of Messrs. J. Backhouse & Son.

It would be impossible to speak too highly of the kindness and splendid hospitality of the York officials, and it is gratifying to know that the members of the deputation were more than satisfied with the exhibition and their visit to York. In their official inspection for the purpose of granting special awards no difficulties whatever were experienced. There was not a shadow of suspicion of conflict with the work of the Judges, but all the proceedings worked as smoothly as could be imagined, and the visit of the "Royal," like the show itself, was a distinct success.

As we last week gave portraits of prominent York officials, we this week publish those of representative members of the London deputation and officials of the Royal Horticultural Society, the President (page 581), Treasurer (opposite), and Secretary (page 585), in commemoration of the event in which London and York were so pleasantly associated horticulturally.

GROUPS.

The whole of one large marquee was occupied by miscellaneous groups of plants arranged for effect, to each of which a space of 300 feet were allotted. Five substantial prizes were offered, making a total of £58, and seven exhibitors entered the lists. Of these Mr. G. Wilson, gardener to Sir Joseph Reckitt, Swanland Manor, repeated his success of last year, and carried off the highest award with a tasteful and elegant arrangement. The background of the group was formed to represent a rockery, in the centre of which was a miniature cavern, from whence trickled water into a tiny pool, with surface dotted with Water Lilies. The chief feature of the group, however, was that the plants—good specimens of their respective kinds—were all seen to the best advantage, any undue crowding being conspicuously absent. In prominent positions were dotted Crotons of medium size, a large Palm figured in the front, and charmingly intermixed with other graceful foliage plants were Cattleyas, Odontoglossums, Dendrobiums, and Lilioms. Mr. C. J. Mee came second with a tasteful group, which, however, lacked the finish of the aforementioned, the arrangement of the front being somewhat deficient. Lightness and elegance were displayed in formation, in which Crotons, Acalyphas, Palms, and Alocasias were used, with Orchids and Bougainvilleas the principal flowers. The third prize exhibit set up by Mr. J. McIntyre, gardener to Mrs. Gurney Pease, Woodside, Darlington, was also charming, but rather too crowded and complicated; too much formality was also displayed in several of the principal features being made to match, though nothing can be urged against the quality of the plants and flowers. The fourth prize group, for which Mr. W. Townsend, gardener to E. B. Faber, Esq., Harrogate, was responsible, showed several blank spaces, this depreciating considerably from its good points; the fifth prize fell to Mr. W. H. Simpson, Selby, and special prizes were recommended to the two non-successful exhibitors.

PLANTS.

The large specimen plants were, as usual, accommodated under the conical roof of the circular tent, where the cone of stove and greenhouse plants was an imposing feature. Mr. J. Cypher, Cheltenham, repeated his success of last year by taking first prize with sixteen stove and greenhouse plants, showing magnificent specimens of *Erica Cavendishiana*, *Pimelea diosmæfolia*, *Clerodendron Balfourianum*, *Ixora Williamsi*, *Erica depressa*, *Bougainvillea Sanderiana*, *Stephanotis floribunda*, *Ixora Pilgrimi*, *Phœnocomma prolifera Barnesi*, *Erica ventricosa alba*, *Kentias Fosteriana*, *Belmoreana*, and *australis*, *Phoenix rupicola*, and *Croton Montefortiensis*. For the second prize Mr. W. Vause, Leamington, showed fine specimens of *Bougainvillea Sanderiana*, *Erica ventricosa grandiflora*, *Statice profusa*, *Stephanotis floribunda*, a magnificent plant of *Cycas revoluta*, and other foliage plants. Mr. J. Sunley, South Milford, took the third place.

Mr. Cypher was again an easy first with stove and greenhouse plants, showing grand specimens of *Bougainvillea glabra*, *Erica Cavendishiana*, *Pimelea diosmaefolia*, *Stephanotis floribunda*, *Erica ventricosa magnifica*, and *Phenocoma prolifera Barnesi*. Mr. Chas. Lawton, gardener to H. Broadley-Harrison, Esq., Welton, was a fair second, his best plant being *Bougainvillea glabra*, and Mr. W. Vause followed with the third. Mr. F. Nicholas, gardener to Marquis of Zetland, Upleatham, was first with three greenhouse Azaleas, showing *Chelsoni* and others in good form. Messrs. W. Jackson obtained the second prize with specimens which were exceedingly poor. The first prize for three Cape Heaths went to Mr. F. Nicholas, who showed well-flowered specimens of *Erica depressa multiflora*, *E. ventricosa magnifica*, and *E. Cavendishi*. Mr. Jas. Cypher took the second place, and Mr. J. Sunley the third. Mr. J. Sunley was first for a single specimen stove plant, showing a well-flowered *Anthurium Scherzerianum*. Mr. Chas. Lawton was second with *Bougainvillea glabra*, and Mr. F. Nicholas third with *Franciscea calycina major*.

Four magnificent specimens of Crotons, which included *Baroness Rothschild* and *Warneri*, shown by Mr. McIntyre, were awarded first prize in the class for them. Mr. W. Vause was second with less plants, but highly coloured; and the third prize went to Mr. W. H. Simpson, who had in his exhibit a good plant of *C. pictum*. Mr. J. Sunley was first with four *Dracenas*, showing well furnished specimens. The second prize went to Mr. C. J. Mee, and the third to Mr. J. McIntyre. The first prize for three ornamental foliage plants went to Mr. F. Nicholas, who showed splendid specimens of *Croton Johannis*, *Kentia Belmoreana*, *Cycas revoluta*. Mr. J. McIntyre was a good second, showing among others a fine example of *Croton angustifolius*; and Mr. W. Townsend, gardener to E. B. Faber, Esq., Harrogate, followed with the third. Mr. J. McIntyre was a good first with six ornamental foliage plants, showing *Croton Queen Victoria*, *Phoenix rupicola*, *Croton angustifolius*, *Kentias Belmoreana* and *Fosteriana*, and *Cycas siemensis* in good form. Mr. Chas. Lawton followed, a close second; and Mr. J. Sunley third, and Mr. W. Vause fourth. Mr. Chas. Lawton had the best pair of fine-foliage plants, followed by Mr. F. Nicholas.

Coleuses were well shown. Mr. G. Clark, gardener to Miss Wharton, York, was first with six, staging highly coloured specimens. Mr. G. H. Dobson, gardener to R. Lawson, Esq., York, was second with larger plants, though not so well grown; and Mr. W. Wood, gardener to Hon. Claude Lambton, York, followed with the third. The exhibits of twenty alpine and herbaceous plants were very pleasing. Mr. S. Hardcastle, York, was placed first, showing amongst others fine specimens of *Inula glandulosa*, *Pyrethrum Mont Blanc*, *Lilium umbellatum*, *Erigeron superba*, *Pyrethrum Crimson King*, with *Sedums* and others. Mr. J. A. Rodwell, York, was a good second, showing among others a fine plant of *Sibthorpia europæa* and *Funkia undulata*; and Mr. Geo. Hudson, York, followed with the third. Mr. G. Dobson, gardener to A. Lawson, Esq., York, was a good first for twelve *Gloxinias*, Messrs. G. Clark and Mr. W. Fletcher, gardener to F. M. Lambert, Esq., York, following second and third. Mr. G. H. Dobson was first for six *Gloxinias*; Mr. W. Sparin, gardener to J. Bellerby, Esq., York, second; and Mr. D. Dickinson, gardener to W. B. Richardson, Esq., York, third. Mr. R. McIntyre showed six splendid specimen *Fuchsias*, for which he was justly awarded the first prize. The second prize plants shown by Mr. G. Clarke were also commendable, but not so well flowered. A splendid group of *Carnations* was set up by Messrs. Laing & Mather, Kelso, for which the first prize was justly awarded. Included in the exhibit were fine flowers of *Germania*, *Uriah Pike*, and *Duchess of Fife*. Mr. M. Campbell, High Blantyre, was second.

Floral Arrangements and Cut Flowers.—These occupied a considerable space, and Messrs. J. Cypher, Perkins & Sons, Coventry; F. Nicholas, T. R. Jessop, J. McIndoe, W. Hutchinson, and Harkness and Sons were the chief prizewinners. Pansies and Violas were also largely shown, and in the principal classes the premier awards went to Messrs. J. Smellie, Busby, N.B., and M. Campbell, High Blantyre. Bunches of stove, greenhouse, and hardy flowers were shown, but in many cases was noticeable the common drawback—overcrowding.

FERNS.

In these classes the competition was fairly keen, and in several instances the Judges had some difficulty in awarding the prizes. Among the plants shown were some magnificent specimens. Mr. J. McIntyre was a good first for six exotic Ferns, showing fine plants of *Davallia fijiensis*, *Adiantum Williamsi*, *Dicksonia antarctica*, and others. Mr. J. Snowden, gardener to Rev. Geo. Yeates, York, in his second prize exhibit had a good plant of *Gymnogramma chrysophylla*. Mr. J. McIntyre was a splendid first with three exotic Ferns, showing *Davallia Mooreana*, a magnificent specimen, quite 9 feet through; *Davallia fijiensis*, also remarkable, and a superb plant of *Adiantum Mariessi*. Mr. J. Snowden was second, and Mr. F. Nicholas third, the exhibits in each instance being very fine. Mr. J. Smallwood was awarded first prize for a single specimen exotic Fern, showing *Davallia bullata*; Mr. J. McIntyre was second with *Gleichenia Mendeli*, and Mr. C. J. Mee third. In the class for six hardy Ferns Mr. W. H. Simpson was first, Mr. J. Nicholson second, and Mr. Snowden third. For ten hardy Ferns Mr. J. Jackson was first, showing, among others, a splendid plant of *Osmunda Claytoniana*; Mr. J. Nicholson was a very close second, having a very fine *Trichomanes radicans*; Mr. W. H. Simpson was third.

PELARGONIUMS.

These are always a feature at York, and though a slight falling off was this year noticeable, the striking masses of bloom displayed down the centre of a large tent were most conspicuous, showing what can be

done with these plants when the necessary attention is bestowed. Pelargoniums are evidently in favour in Yorkshire, judging by the apparent interest taken in the plants by the visitors. Mr. Eastwood, gardener to Mrs. Tetley, Leeds, was a splendid first with twelve specimen Show Pelargoniums. The plants were exceptionally well flowered, large, and in colour varied, Master Richard, Magpie, and Painted Lady were very striking varieties. The second prize went to Mr. McIntosh, gardener to J. T. Hingston, Esq., Clifton, who showed a fine dozen, not quite so well flowered as the former. Mr. McIntosh was first with six specimens, showing superb plants of Tommy Dodd, Queen Bess, Kingston Beauty, Miss Winnie Hingston, and others, all fine examples of good culture. The second prize went to Mr. Eastwood for plants not quite so large. The last-named exhibitor was a good first for three Show Pelargoniums, his plants of Queen Bess, Kingston Beauty, and Madame Desmoulin being very fine. Mr. McIntosh followed, a fair second. For three double-flowered Ivy Pelargoniums Mr. Eastwood was first with Robert Owen, Florence, and Souvenir de C. Turner. For six double-flowered Ivy-leaved Pelargoniums Mr. H. Pybus, Ripon, was first with superbly grown specimens, Mr. G. Cottam, Hull, was second with smaller plants not quite so thickly flowered, and Mr. Eastwood followed with the third award.

Grand specimens shown by Mr. G. Cottam took the premier award in the class for eight double-flowered Pelargoniums, superb culture

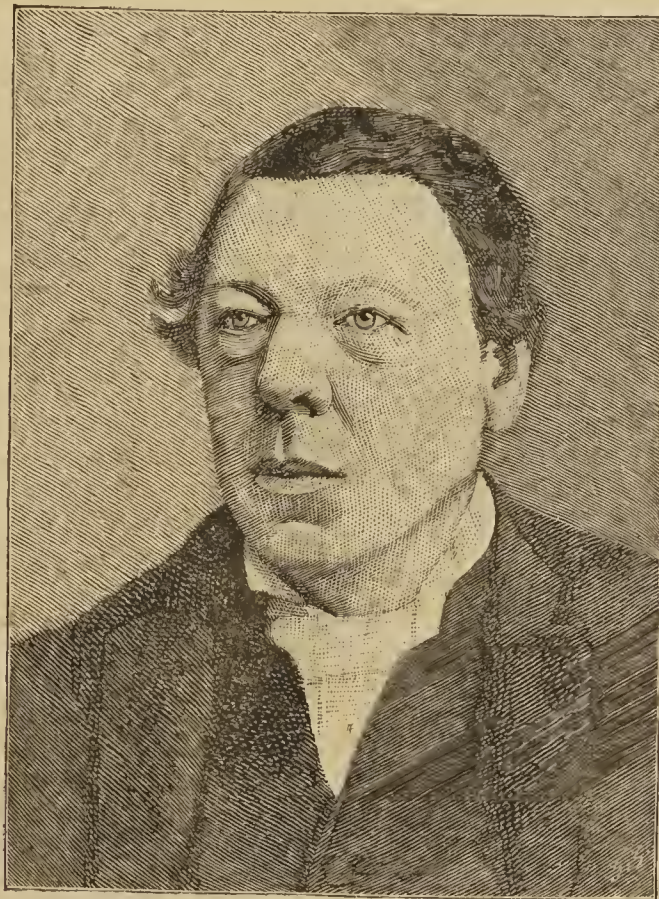


FIG. 101.—REV. W. WILKS.
Secretary—R.H.S.

being illustrated throughout. Mr. Eastwood was a creditable second, also showing fine plants; and Mr. W. H. Simpson, Selby, occupied the third position. The single Zonals were perhaps the brightest feature amongst the Pelargoniums. Mr. Eastwood was the only exhibitor of twelve, but his superbly grown plants were justly worthy of the first prize that was awarded them. For six Zonals Mr. H. Pybus was justly first, showing thickly flowered plants, amongst which Sir H. Stanhope and Mrs. Kelley were features (R.H.S. Banksian medal). Mr. Eastwood was second with much smaller but well-grown plants, and Mr. McIntosh followed with the third. Mr. Eastwood gained first prize for three plants with superb specimens, well grown, and thickly flowered. Mr. W. H. Simpson was a good first with four double-flowered Pelargoniums, followed by Messrs. Eastwood and Clark, second and third.

ORCHIDS.

One of the features in the great show was the marked increase of exhibits in the Orchid section. The plants shown were numerous and well flowered, and at the present rate of advance there is no reason to doubt that the exhibition at York will eventually become a noted one for these popular flowers. The system adopted in some instances of making up specimens, especially *Cattleyas*, is not commendable, though this was not carried out in all cases. A large and varied display of Orchids came from Messrs. H. Low & Co., Clapton, in which *Cattleyas* were the principal feature, many beautiful flowers being shown of the *gigas*, *Mossiae*, *Gaskelliana*, and other sections. *Cypripedium bellatulum* and others were also shown with *Odontoglossum crispum*, *Cymbidiums*, and others (gold medal). Messrs. Heath & Son, Cheltenham, sent a large group of Orchids, the plants being made up into pans. Included in the exhibit were *Cattleyas gigas*, *Mossiae*, and *Warneri*, *Laelia grandis tenebrosa*, with *Odontoglossum crispum*, *vexillarium*, and others. Messrs. Charlesworth & Co., Heaton, Bradford, also staged a superb collection of Orchids, in which were noticed fine pieces of *Laelias tenebrosa magnifica*

and *t. rosea*, good spikes of *Odontoglossum crispum*, *Cattleya citrina*, with *Cypripediums*, *Cattleyas*, *Oncidium*s, and others in variety. A considerable number of interesting plants also came from Messrs. F. Sander & Co., St. Albans.

Messrs. Jas. Cypher, Cheltenham, was a good first for ten Orchids in bloom, showing *Epidendrum vitellinum*, *Cattleyas Mossiae*, *gigas*, *Warneri*, and *Mendelli*, *Epidendrum prismatocarpum*, *Laelia tenebrosa magnifica*, *Thunia Marshalli*, *Oncidium macranthum*, and *Thunia Veitchi*. Mr. T. Dyson, gardener to T. R. Jessop, Esq., Leeds, was second, showing *Odontoglossum Roezli*, *Cattleyas Mendeli* and *Mossiae* in good form; and Mr. T. Stafford, gardener to F. Hardy, Esq., was third. The first prize for half a dozen Orchids went to Mr. T. Tyson, who showed *Cattleya Mossiae rubens* and *Warneri vestalis*, *Miltonia vexillaria*, *Oncidium macranthum*, and *Laelia grandis tenebrosa*. Mr. T. Stafford was accorded the second place; and Mr. Jas. Cypher the third. Mr. Stafford was a good first with three Orchids, showing *Laelia grandis tenebrosa*, *Odontoglossum vexillarium*, and *Cattleya Mossiae* in good form. Mr. Jas. Cypher was a fair second; and Mr. T. Tyson third, the latter showing plants that were not made up at all. For three Orchids in bloom of new or rare specimens Mr. Stafford was first with *Cattleya Mossiae Wagneri*, *Laelio-Cattleya Arnoldiana*, and *L. C. Canhamiana*. Mr. T. Tyson was awarded second in this class. Mr. Tyson was first with four Orchids in bloom for the prize offered by Messrs. Backhouse & Son.

ROSES.

In spite of the fact that the queen of flowers was not so numerously represented as last year, yet lovers of the Rose were treated to a superb display, a display rendered interesting inasmuch as it was the first great exhibition of Roses of the year. If this is to be taken as any criterion of what is to follow, then we may at other shows expect to see blooms of no mean order of merit. Almost the whole of one tent was occupied by the exhibits in these classes.

Messrs. D. Prior & Son, Colchester, were a good first with seventy-two blooms in not less than thirty-six varieties. Superb flowers were the feature throughout of varieties Mrs. John Laing, *Gustave Piganeau*, *Her Majesty*, *La Rosière*, *Caroline Testout*, *La France*, *Ulrich Brunner*, *François Michelin*, *Marchioness of Dufferin*, *Souvenir d'Elise Vardon*, *Heinrich Schultheis*, *Horace Vernet*, *Niphetos*, *Caroline Kuster*, *The Bride*, *Etienne Levet*, *A. K. Williams*, *Ernest Metz*, *Prince Arthur*, *Camille de Rohan*, *Eugène Verdier*, *Suzanne Marie Rodocanachi*, *Margaret Dickson*, *Comte de Nadaillac*, *Duke of Connaught*, *Innocente Pirola*, *Marie Baumann*, *Catherine Mermet*, *Grand Mogul*, *Duke of Wellington*, *Madame Hoste*, *Fisher Holmes*, *Mrs. W. J. Grant*, *Général Jacqueminot*, *Medea*, *Souvenir de S. A. Prince*, *Abel Carrière*, *Souvenir d'un Ami*, *Madame Delville*, *Mary Bennett*, and *Rubens*. Messrs. Harkness & Sons, Bedale, were a capital second; Mr. G. Mount, Canterbury, third; and Messrs. G. & W. H. Burch, Peterborough, third.

Messrs. D. Prior & Son were again to the front in the class for forty-eight, distinct, showing splendid flowers of (back row) *Marie Finger*, *Duke of Connaught*, *Jeannie Dickson*, *Horace Vernet*, *Lady Mary Fitzwilliam*, *Ulrich Brunner*, *Comte Henri Rignon*, *Etienne Levet*, *Caroline Testout*, *A. K. Williams*, *Violette Bouyer*, *Prince Camille de Rohan*, *Mrs. J. Laing*, *Gustave Piganeau*, *Baroness Rothschild*, *François Michelin*. Second row: *Victor Hugo*, *Souvenir de S. A. Prince*, *Capt. Hayward*, *Kaiserin Augusta Victoria*, *Comte de Raimbaud*, *Star of Waltham*, *Duke of Fife*, *Duchesse de Morny*, *Auguste Rigotard*, *Heinrich Schultheis*, *Marie Baumann*, *Catherine Mermet*, *Duchess of Bedford*, *Mary Bennett*, *Exposition de Brie*, *Pride of Waltham*. Front row: *Madame Eugénie Verdier*, *Charles Darwin*, *Madame Gabriel Luizet*, *Dupuy Jamain*, *Marchioness of Dufferin*, *Suzanne Marie Rodocanachi*, *Marie Van Houtte*, *Xavier Olibo*, *Mrs. Sharman Crawford*, *Duke of Fife*, *Anna Olivier*, *Fisher Holmes*, *Marie Verdier*, and *Général Jacqueminot*. Messrs. Harkness & Sons secured the second place with good flowers. Mr. George Mount was third; and Messrs. G. & W. H. Burch third.

Messrs. G. & W. H. Burch were the premiers with thirty-six blooms, showing in good form—Back row: *Her Majesty*, *Captain Hayward*, *Mrs. John Laing*, *Duke of Teck*, *Mrs. Sharman Crawford*, *Marie Baumann*, *Caroline Testout*, *Gustave Piganeau*, *Captain Christy*, *Comte de Raimbaud*, *Madame Gabriel Luizet*, *La France*. Middle row: *Victor Hugo*, *Niphetos*, *Horace Vernet*, *Innocente Pirola*, *Ulrich Brunner*, *Miss Edith Gifford*, *Xavier Olibo*, *Souvenir d'un Ami*, *Duchess of Bedford*, *Augustine Guinoisseau*, *Exposition de Brie*, *Marie Verdier*. Front row: *Margaret Dickson*, *Prince Arthur*, *Marie Van Houtte*, *Earl Dufferin*, *Rubens*, *A. K. Williams*, *Ernest Metz*, *Jean Ducher*, *Madame Hoste*, *Louis Van Houtte*, *Madame Bravy*, and *Catherine Mermet*. Messrs. D. Prior was a good second, Messrs. Harkness third, and Mr. G. Mount fourth. Messrs. G. & W. H. Burch were well to the fore with twenty-four blooms, showing—Back row: *Her Majesty*, *Duke of Teck*, *Mrs. John Laing*, *Ulrich Brunner*, *Madame Caroline Testout*, *Marie Baumann*, *La France*, *Mons. C. Crapelet*. Middle row: *Gustave Piganeau*, *Miss Edith Gifford*, *Horace Vernet*, *Niphetos*, *Xavier Olibo*, *Madame Joseph Desbois*, *A. K. Williams*, *Mrs. Sharman Crawford*. Front row: *Margaret Dickson*, *Camille Bernardin*, *Madame Hoste*, *Earl Dufferin*, *Innocente Pirola*, *Duke of Edinburgh*, *Jean Ducher*, and *Victor Hugo*. Messrs. Harkness & Son, D. Prior & Son, were second and third in the order named.

Messrs. G. & W. H. Burch were first for eighteen distinct blooms, showing many good specimens. Messrs. Harkness & Son took second honours, followed by Mr. G. Mount. Messrs. D. Prior & Son were first for twelve white and yellow Roses, followed by Mr. G. Mount, second; and Messrs. Townsend & Sons, Worcester, third. Messrs. D. Prior & Son were first for twelve Roses of one variety, showing Mrs. J. Laing. Messrs. G. & W. H. Burch were second with *Her Majesty*; and Mr.

G. Mount third with Mrs. John Laing. The first prize for twelve Tea-scented blooms of one variety went to Messrs. G. & W. H. Burch, who showed Miss Edith Gifford. Messrs. D. Prior & Son were second with *Marie Van Houtte*; and Mr. G. Mount third with *Catherine Mermet*. For a group of nine Roses in pots Messrs. W. Jackson & Co., Bedale, were first with well grown plants; Mr. H. Pybus followed, a fair second; and Mr. J. Eastwood third. Messrs. W. Jackson & Co. were also well to the front with a collection of Roses arranged for effect. Mr. G. Mount was second, and Mr. H. Pybus third.

FRUIT.

The offering of good prizes invariably brings together fine exhibits, and here we have no exception, as the quality, especially in the collections, was exceedingly good. Grapes in some instances showed a deficiency of colour, but Peaches and Nectarines were splendid throughout. In the class for ten varieties Mr. J. McIndoe, gardener to Sir J. W. Pease, Hutton Hall, followed up his success of last year by winning somewhat easily. His exhibit comprised well-finished *Black Hamburg* and *Muscat of Alexandria* Grapes, *Bananas*, *Shrewsbury* and *Best of All* Melons, *Stanwick Elruge* Nectarines of high colour, *Grosse Mignonne* and *Prince Alfred* Peaches, and *Bigarreau Napoleon* Cherries. Mr. J. Edmonds, gardener to the Duke of St. Albans, *Bestwood*, *Notts*, was second, his Grapes, *Black Hamburg* and *Foster's Seedling*, lacking finish; *Hale's Early* Peaches, *Lord Napier* Nectarines, and *Figs* were all good, other fruit being *Royal Sovereign* Strawberries and *Read's Scarlet* and *Best of All* Melons. The third prize fell to Mr. J. Tullett, gardener to Lord Barnard, *Raby Castle*, *Darlington*. Mr. McIndoe was also first for six dishes, showing superb *Black Hamburg* and *Muscat of Alexandria* Grapes, *Stanwick Elruge* Nectarines, *Peaches*, and *Brown Turkey Figs*. Mr. J. P. Leadbetter was a good second, his best dishes being *Black Hamburg* and *Buckland Sweetwater* Grapes, and *Pitmaston Orange* Nectarines. The third prize went to Mr. J. Wallis, gardener to R. Sneyd, Esq., *Keele Hall*, *Staffs*, for a moderate collection, and the fourth to Mr. J. Curry, gardener to W. H. Hole-Toder Esq., *Retford*, Grapes here being the weak point. For four dishes first honours again went to Mr. McIndoe, who deservedly won this with fine *Hamburg* Grapes, *Melon*, *Stanwick Elruge* Nectarines, and *Figs*, all good. Mr. J. Easter, gardener to Rt. Hon. Lord St. Oswald, *Nostell Priory*, was second, showing good *Rivers' York* Peaches and large *Madresfield Court* Grapes, but somewhat deficient in colour. The third and fourth prizes were won by Mr. H. J. Clayton, gardener to J. Fielden, Esq., *Tadcaster*, and Mr. J. Curry in the order named.

For three bunches black Grapes the competition was keen, Mr. A. H. Hall, gardener to J. C. Waterhouse, Esq., *Macclesfield*, winning first prize with fine pieces of *Black Hamburg*. Mr. J. McIndoe was second with smaller but clean bunches of the same variety, Mr. J. Tullett following with the third. Mr. J. Allsopp, gardener to Lord Hotham, *Hull*, was first with three bunches white Grapes, showing superb bunches of *Buckland Sweetwater*. Mr. W. Nichols, gardener to Lady Beaumont, *Carlton Towers*, was second with the same variety, but not so well coloured; and Mr. McIndoe was third with small pieces of *Foster's Seedling*.

Mr. H. J. Clayton was first for a *Pine*, Mr. J. Curry second, and Mr. J. Tullett third. Mr. G. Duncan, gardener to F. C. Fletcher, Esq., *Arbroath*, *N.B.*, was first for a scarlet-fleshed *Melon*, showing *Blenheim Orange*. Mr. McIndoe was second, and Mr. J. McIntyre third. Mr. J. Riddell, gardener to the Earl of Carlisle, was first for a green-fleshed; Mr. J. McIndoe second, Mr. G. Duncan third. Mr. McIntyre was first for a white-fleshed. The first award for six Peaches went to Mr. Charles Lawton, who showed fine fruits of *Gros Mignonne*. Mr. A. Keywood, gardener to W. H. Battle Wrightson, Esq., *Doncaster*, was a close second; and Mr. McIndoe third. Six splendid Nectarines, shown by Mr. P. Blair, gardener to the Duke of Sutherland, *Trentham*, were an easy first in the class for them. The second award went to Mr. McIndoe, and the third to Mr. Jas. Tullett. Strawberries, Cherries, Figs, and Tomatoes were all well shown, Mr. McIndoe being the chief prizewinner.

NURSERYMEN'S EXHIBITS.

Mr. H. J. Jones, *Lewisham*, arranged a charming bank of *Pelargonium* blooms, interspersed with *Maidenhair Ferns*. Many of the *Zonal*, *Fancy*, and *Ivy-leaved* varieties were very striking and attractive. The same exhibitor also staged a varied collection of *Begonia* flowers, double and single. Hardy flowers in the shape of *Pæonies*, *Irises*, *Liliums*, *Delphiniums*, *Gaillardias*, *Calochortus*, and others, were set up by Messrs. Dicksons, *Chester*. The flowers were arranged with taste, not being crowded, as is generally the case with hardy flowers. Messrs. Dobbie & Co., *Rothesay*, made a pleasing display with *Violas*, *Fancy Pelargoniums*, *Cactus Dahlias*, *Pyrethrums*, and other hardy flowers. A showy exhibit of hardy flowers came from Messrs. Cutbush and Son, *Highgate*. Conspicuous amongst others were *Delphiniums*, *Pæonies*, *Irises*, *Liliums*, *Gladioli*, and *Sweet Pea* *Cupid*. The same firm also had a splendid exhibit of *Carnations*, including *Malmaisons*, *Germania*, *Uriah Pike*, and *Marchioness of Londonderry* (gold medal).

Very effective was the collection of hardy flowers staged by Messrs. Jas. Veitch & Sons, *Chelsea*, including *Delphiniums* in variety, *Gaillardias*, *Pæonies*, *Campanulas*, *Irises*, *Antirrhinums*, *Phloxes*, and others. A choice group of plants also hailed from *Chelsea*, comprised of *Caladiums* in variety, *Cannas*, *Gloxinias*, *Streptocarpus*, *Crotons*, *Dracenas*, *Nepenthes*, and others, the whole making a pleasing bank (gold medal). Messrs. Barr & Son, *Covent Garden*, were well represented by hardy flowers, among which *Pæonies* predominated. Included also were *Iceland* and *Shirley Poppies*, *Irises*, *Delphiniums*, *Hemerocallis*, *Geum montanum*, *Gladioli*, *Liliums*, *Gaillardias*, *Ranunculuses*, and others,

making up a large exhibit. A unique group of hardy plants was shown by Messrs. Fisher, Son, & Sibray, Sheffield, which included *Acer*s in variety, with *Irises*, *Yews*, and other hardy shrubs. The firm also showed a small group of choice plants, comprising *Crotons*, *Caladiums*, *Dracænas*, *Antirrhinums*, *Cannas*, *Strobilanthus Dyerianus*, and others, arranged with taste, and making up a pretty exhibit.

A large amount of space was occupied by Messrs. Richard Smith and Co., Worcester, who showed several fine *Clematis*es and a large group of hardy flowers composed of *Campanulas*, English *Irises*, *Delphiniums* in variety, *Pæonies*, *Liliums*, *Spiræas*, and *Malmaison Carnations*, and foliage plants in the shape of *Bamboos*. Messrs. W. & J. Birkenhead, Sale, had a charming collection of *Ferns* in mystifying variety, including *Adiantum farleyense*, *gracillimum tenerum roseum*, and others, *Gymnogrammas*, *Polystichums*, and *Pterises*, the whole betraying a remarkably green and healthy appearance. Messrs. W. Clibran & Son, Altrincham, had a varied collection of hardy flowers, composed of *Irises*, *Campanulas*, *Pæonies*, and such-like, the exhibit also including a large assortment of curious *Cacti*. Mr. J. W. Wilson, Hull, arranged a tasteful group of flower and foliage plants, in which *Orchids* and hardy flowers were set up with *Ferns* and foliage plants. Messrs. Sander & Co., St. Albans, had a varied collection of choice plants, amongst which were noticed *Begonias*, *Dracænas*, *Sarracénias*, *Hypericum Moserianum tricolor*, and others.

Sweet Peas in great variety came from Mr. Henry Eckford, Wem, Salop, in which all the best kinds were included. The dark, white, rose and yellow tints made a pleasing contrast, which was much admired. Geo. Yeld, Esq., York, had a pretty group of choice *Pæonies*, *Irises*, *Hemerocallis*, and seedling *Lilium colchicum*, which was most interesting. Messrs. Laxton Bros., Bedford, sent a collection of *Strawberries*, comprising *Royal Sovereign*, *Noble*, *Laxton's Monarch*, *Baroness*, and *Laxton's Leader*, all in good condition. Messrs. Webb & Sons, Stourbridge, were represented by a small but choice exhibit of vegetables, such as *Potatoes*, *Beans*, *Carrots*, *Onions*, *Cabbage*, and *Turnips* and *Marrows*. Considering the early date the exhibit was very commendable. Messrs. H. Cannell & Sons, Swanley, sent a choice collection of *Cannas*, displaying many of the best varieties, the flowers of which were large and showy.

R.H.S. AWARDS.

The deputation of the R.H.S. granted a silver-gilt Flora medal to Messrs. James Veitch & Sons, Chelsea, for group of plants. Silver Flora medal to Mrs. Tetley for *Pelargoniums*. Silver Banksian medals. —Mrs. Gurney Pease, for *Ferns*; Mr. C. J. Mee, for group of plants; Sir J. Reckitt, Bart., for group of plants; Mr. H. Pybus, for *Zonal Pelargoniums*.

First-class certificate to Messrs. Charlesworth & Co., for *Lælio-Cattleya* variety *Gladiator*.

Awards of merit to Messrs. Harkness & Sons, for *Papaver orientale* var. *Prince of Orange*; Messrs. Low & Co., for *Cattleya Mossiæ* var. *Giant*; Messrs. Charlesworth & Co., for *Odontoglossum crispum* var. *H. Mason*; Mr. G. Yeld, for *Iris G. Yeld*; Lord Deramore, for *Dipladenia* Lord Deramore; Mr. James Cypher, for *Cattleya Forbesi*; H. Steel, Esq., for *Odontoglossum crispum* H. Steel; Messrs. Heath and Son, Cheltenham, for *Lobelia* Heath's Tree.

Botanical certificate.—T. R. Jessop, Esq., for *Bifrenaria* Charlesworthi.

Highly commended. — Mr. James Cypher, for *Erica ventricosa*, *Phenocoma* and *Bougainvillea Sanderiana*; the Marquis of Zetland, for *Hedera*, *Cycas*, and *Ixora Pilgrimi*; Messrs. Fisher, Son & Sibray, for group of hardy plants; Messrs. Laing & Mather, for group of *Carnations*; Mr. A. Waterer, for cut *Rhododendrons*; Mrs. Gurney Pease, for *Cycas siamensis*; Mr. J. A. Rodwell, for group of alpine, &c.

Commended.—Messrs. Perkins & Son, for bouquets; H. B. Grotrian, Esq., for seedling *Begonias*; Mr. S. Harcastle, for *Succulents*; Sir Jos. Pease, Bart., M.P., for *Lemons*, *Citrons*, and *Oranges*; T. R. Jessop, Esq., for *Oncidium cornigerum*.

Cultural commendation to T. R. Jessop, Esq., for *Saccolabium guttatum*; Rev. G. Yeats, for *Adiantum concinnum*; and the Earl of Zetland, for *Davallia fijiensis plumosa*.

SPECIAL AWARDS.

In addition to prizes above mentioned, and the grants of the Royal Horticultural Society, the following honours were awarded:—A gold medal to Messrs. Fisher, Son, & Sibray for stove and greenhouse plants, and *Japanese Maples*. Silver-gilt medals to Messrs. Dicksons, Limited, for cut flowers, and Mr. H. J. Jones for cut blooms of *Pelargoniums*. Silver medals to Messrs. Barr & Son for hardy decorative plants, Messrs. Dobbie & Sons for collection of decorative plants and cut blooms, Mr. Geo. Mount for *Roses* and other flowers, Messrs. Clibran and Son for collection of plants and cut flowers, Messrs. Jones & Sons for floral decorations, Messrs. H. Cannell & Son for collection of *Cannas*, and Mr. J. W. Wilson for decorative plants and cut flowers.

THE LUNCHEON.

Full to overcrowding was the tent in which the luncheon was held. Alderman Sir Joseph Terry occupied the chair, supported by the Lord Mayor, the City Sheriff, and Dean of York; Sir Trevor Lawrence, Rev. W. Wilks, and other members forming the deputation from the R.H.S.; with several Aldermen, members of the Gala Committee, and other gentlemen.

After lunch the LORD MAYOR proposed the "Health of the President of the Royal Horticultural Society," extending a hearty welcome to the deputation on the occasion of its first visit to York. He had long been

closely connected with the York Gala, which had experienced many trials and reverses; but he thought they had crowned their success that day in the presence of a deputation of the premier Society of the world, and they were further honoured with the presence of its distinguished President. (Cheers.) Sir Trevor, he continued, was not only an authority on *Orchids*, but was interested in all phases of horticulture; moreover, he had rendered important services for his country as a statesman for many years. (Loud applause.) That the Gala was well supported is proved in the fact that they had £2300 in hand. This year they had been very successful considering the weather, and in expressing the pleasure of the Gala Committee at the visit of the deputation and Sir Trevor, though it was his first visit to York, he sincerely hoped it would not be the last. (Prolonged cheers.)

SIR TREVOR LAWRENCE rose amid cheers to respond, and in offering condolence for the inclement weather said he had nothing but sincere congratulations to advance to them, and in thanking the Gala Committee for the cordial welcome they had received he was speaking the unanimous voice of the whole deputation. Never had he seen a more complete and varied exhibition, as there was something to please every taste. (Cheers.) There were *Orchids* for those who admired them, and fruit, *Pelargoniums*, and hardy flowers for those who found delight in them. He hoped that the not inconsiderable number of awards which the deputation had made on that occasion showed its appreciation of the high character of the exhibition. (Applause.) They were aware perhaps that on this occasion the R.H.S. is making a new departure. The Council of the Society have long felt regrets that they have not been able to bring themselves in close contact with the people of the provinces of a garden-loving country. They fully recognised that while those who lived near London could enjoy the benefits bestowed by the R.H.S., they could not expect those living in Yorkshire to visit the meetings at Westminster, varied and beautiful though they were. He hoped, however, that the Society would be able to bring itself more in touch with the Society than it had hitherto done, and in representing the advance in horticulture it is wished that the R.H.S. should occupy in the horticultural world, as the Royal Agricultural Society does in that of agriculture. (Cheers.) In order to assist in bringing this about he hoped they would do what they could towards the support of the premier Society.

He would not enter into a history of the R.H.S., but reminded them that it was started in 1804, and received its first charter in 1809. Since that time the Society has, in name, represented the horticulture of the kingdom. Not always wisely, he regretted to say, but when unwisely it had always failed. While horticulture was its real and only love, it had always prospered, but when a departure had been made in favour of tennis, rinks, and such festivities, admirable and proper though they might be at the Yorkshire Gala—(laughter)—they went wrong. Ever since leaving South Kensington the Society had increased on an average of 280 members per annum, and this year already 250 members have been enrolled, making a total of nearly 4000 Fellows. (Cheers.) This was not to be compared with in the Kensington days, when they were losing largely every year. He regretted the income of the Society was not so large as its supporters would desire, though they would be glad to hear it had a surplus, if not so large as that of the Yorkshire Gala. They also felt the want of an horticultural hall in London, and though they once had a few thousand pounds of the sum required for that purpose, owing to circumstances it had to be given up.

In conclusion, Sir Trevor made reference to the kindness of his agreeable and amiable host and hostess—the Lord Mayor and Lady Mayoress—(cheers)—expressing his hope that though it was the first occasion of a deputation visiting York he sincerely hoped it would not be the last. (Applause.)

The DEAN OF YORK gave the health of "The President, Lord Mayor, the Chairman, Vice-Chairman, and Council," speaking highly of the benefits conferred on the City through the Gala Society. Other speakers were Messrs. Alderman Border, H. J. Veitch, Malcolm Dunn, W. T. Thistleton Dyer, T. G. Hodgson, J. Wright, and J. McIndoe.

The number of visitors on the first day (very wet) was 5258; second day, 31,770; third day, 15,213. Total, 52,241.

GARDENERS' ROYAL BENEVOLENT INSTITUTION.

Under the presidency of the Lord Mayor of York, a meeting was held on the afternoon of the first day of the show in the Council tent, the object being to bring before the notice of gardeners the benefits of the Institution. Amongst those who spoke in its favour were the Lord Mayor, Sir Trevor Lawrence, the Dean of York, the Rev. W. Wilks, and Messrs. H. J. Veitch, J. S. Gray, H. J. Clayton, and G. J. Ingram. There was a large number of gardeners and others present, and after several interesting speeches Mr. J. S. Gray moved—"That this meeting, having heard the objects of the Gardeners' Royal Benevolent Institution, and considering such an excellent institution well worthy of support, heartily commends it to the practical sympathy of all Yorkshire gardeners, and to the kind assistance of all employers and patrons of gardening." This motion was seconded by Mr. H. J. Clayton, and carried unanimously.

NATIONAL VIOLA SOCIETY.

THE first exhibition of this young Society was held in the corridor of the Royal Botanic Society's Gardens, Regent's Park, on Saturday, June 20th. The entries and competition exceeded the hopes of the executive, for the scorching weather experienced by the southern growers

during the past few weeks has been anything but helpful to the production of first-class flowers. The northern growers were able to appear under more favourable circumstances, their flowers being more stout and lasting. Another season it will be necessary for the Committee to select a cooler place for the exhibition, for by mid-day numbers of the blooms had hopelessly collapsed.

In the open classes the competitors were drawn from a very wide field. In the large class for a collection of *Violas*, Mr. S. Pye of Garstang deservedly won the gold medal of the Society with a remarkably fine exhibit. The lighter form, so difficult to produce in dry seasons, was admirably shown, but the stand appeared to lack brightness, being somewhat short of yellows. The most notable sprays were Florizel, Mrs. C. F. Gordon, Isa Ferguson, Magic, Queen of the Year,

Fancy Pansies, distinct, was a strong class, Mr. Matt Campbell securing first; Mr. Smellie of Busby being a close second; Mr. Kay third.

The smaller classes were divided amongst the same exhibitors. The class for twenty-four sprays of *Violas* was keenly contested, Mr. J. Smellie securing the blue riband with a fine even stand, the flowers being all fresh and bright. The most attractive were Duchess of Fife, Hibernia, Goldfinch, Wm. Neil, and White Duchess. Mr. Baxter of Woking produced the second prize stand, but the flowers were smaller. Mrs. C. F. Gordon, Tara, Charm, and Goldfinch were his best productions. Messrs. Cheal & Sons of Crawley third with a stand of good, fresh flowers. For twelve distinct sprays Mr. Baxter came out a good first, Messrs. Smellie and Cheal following in the order named. In the classes for miniature flowers of the *Violetta* type two stands were disqualified for exhibiting the blooms over the standard size—i.e., $1\frac{1}{2}$ inch in diameter. This law was laid down by the *Viola* Conference at Birmingham; but it is now acknowledged to be a mistake, for unless the plants receive bad cultivation it is almost impossible to keep them so small. In the amateur classes the Pansies were very sparsely exhibited. Mr. Kay secured the first prize for twelve Fancies distinct, while Mrs. R. Lovatt was placed second. The competition in the *Viola* classes was very keen. It is somewhat surprising to find the leading exhibitors still clinging to these classes when they might compete successfully in the open section.

In the class for twelve sprays, distinct, Mr. H. A. Needs of Woking carried off the prize with a very fine exhibit, Mr. D. B. Crane of Highgate being very close for second place. Third honours fell to Mr. A. J. Rowberry of Woodford. Six sprays were a good class, Mr. Sheldon of Woodford securing first honours. In the smaller classes, Messrs. Rowberry, Needs, G. W. Cook, and Crane were the chief prizewinners. Great interest was taken in the work of the new Floral Committee, who were to adjudicate on the new seedlings, and great was the disappointment felt when it was found out only one certificate was awarded. This favour fell to the honour of Mr. D. B. Crane for a pale flower called *Lavender King*. Dr. Stuart of Chirnside, N.B., sent a goodly number of rayless seedlings, but they arrived in such condition that it was almost impossible for the Committee to form a proper opinion as to their merits. Some very fine miniature forms were exhibited by Mr. A. J. Rowberry, but no award was granted. Several miscellaneous exhibits were noticed, including a fine collection of English *Iris*, *Violas*, and other hardy flowers staged by Messrs. Barr & Son, Covent Garden, and a good exhibit of bedding Pansies, *Violas*, and Sweet Peas from Messrs. Dobbie & Co., Rothesay. The Committee may congratulate themselves on the success of their first venture, a success mainly attributable to the unceasing efforts of the Hon. Sec. (Mr. A. J. Rowberry), who has worked till he has now the management of a society composed of nearly 100 members drawn from all parts of the United Kingdom.

RICHMOND.—JUNE 24TH.

THE show of the Richmond Horticultural Society, held, as customary, in the Old Deer Park, was opened on Wednesday in showery weather. The exhibits in the various sections were numerous, and the quality generally was high. Vegetables were splendidly staged, as also were plants, while

some of the fruit was not quite up to the mark, though other specimens were excellent. The general effect of the show was very greatly enhanced by the magnificent groups and tables of plants staged by nurserymen. It is a matter for regret that our space is so limited as to preclude the possibility of our making individual reference to these. Below we give the prizewinners in a few of the classes.

Mr. H. E. Fordham, Twickenham, was first for a group of plants in a space not to exceed 100 square feet. The arrangements were exceedingly light and graceful. *Liliums*, *Palms*, *Orchids*, *Gloxinias*, *Spiræas*, *Crotons*, *Coleus*, *Ferns*, *Caladiums* and other plants were all advantageously utilised. Mr. J. McLeod, Roehampton, was a fair second; and Mr. W. Vause, Lymington, a poor third. Mr. J. Portbury, Roehampton, was the winner of the prize offered by the Mayor of Richmond for a group of *Begonias*, with a splendid exhibit, Mr. A. Pentrey, Isleworth, being a poor second. Mrs. Andrew Pears offered prizes for a group of miscellaneous plants, which were secured by Messrs. C. Want and J. Portbury in the order in which the names are given.

Roses were beautifully shown. The blooms, as a rule, were of good shape, size, and substance, while the colour left little to be desired. For twenty-four trebles Messrs. D. Prior & Son, Colchester, were a splendid first, with best blooms of Mrs. J. Laing, Comte Raimbaud, Her Majesty,



FIG. 102.—*LÆLIO-CATTLEYA PYTHO*. (See page 579.)

Charm, Douglas Gordon, and Gold Crest. The silver medal was awarded to Mr. John Forbes of Hawick for a much smaller collection. The method of staging was much too flat; the best sprays were Lemon Queen, Bridegroom, Lady Reay, and Blushing Bride. The bronze medal fell to the lot of Mr. Peter Barr, who staged his flowers in bunches in small flower pots, a system that gives one a better idea of the actual effect produced by such varieties than the popular method of spraying, though it is feared places the exhibitor at a disadvantage. The most striking forms were J. B. Riding, Lemon Queen, Ardwell Gem, and Wm. Neil.

The large Pansy classes were competed for solely by exhibitors from the north. Mr. Matthew Campbell of Blantyre was successful in securing the gold medal for a collection of Pansies. The back of his exhibit was composed of huge bunches of Pansies with their own foliage, which gave the collection a fine effect, while the front part was composed of the stereotyped Pansy stands. The blooms were large, fresh, and well coloured, not a faded bloom amongst them. His best blooms were Allan Stuart, Maggie Benson, Alfred Johnston, Annie Ross, Miss Stirling, D. G. McKay, Maggie Watson, and Mrs. R. Stuart. Mr. Pye followed with a very large and meritorious exhibit, but the blooms had not travelled at all well. D. McNeil, John Crawford, W. H. Clark, Miss Stirling, and R. R. Stevenson were very fine flowers. Twenty-four

Prince Arthur, Susanne Marie Rodocanachi, and A. K. Williams. Messrs. G. & W. H. Burch, Peterborough, were second with smaller blooms; and Mr. F. Cant, Colchester, third. The exhibits in the class for twelve trebles were five in number, and some splendid flowers were noticeable. For twelve H.P.'s Messrs D. Prior & Son were first with Ulrich Branner; Messrs. G. & W. H. Burch second with Her Majesty; and Mr. F. Cant third with Comtesse de Ludre. For twelve Teas, Messrs D. Prior and Son were again first with The Bride; Messrs. F. Cant and G. & W. H. Burch being second and third as named.

In the classes for twelve and twenty-four, distinct, Mr. R. E. West, Reigate, was the only exhibitor, and secured the premier award in each case. The blooms were neat, clear in colour, and mostly fresh. There were only two exhibitors in the class for forty-eight distinct trebles, these being Messrs. D. Prior & Son and Mr. F. Cant, who took the prizes in the order named.

Specimen plants, both in and out of flower, were numerous, and many of them were splendid examples of good culture. Caladiums, too, were finely staged, Mr. J. Allsop, gardener to W. Canard, Esq., Twickenham, being a grand first, Mr. J. McLeod a good second, and Mr. C. Want, gardener to Sir F. Wigan, East Sheen, third. Ferns, too, were largely shown, and throughout were clean and of fine quality. Hardy flowers made a really imposing display, but owing to the lateness of the judging and the limited time at our disposal prior to going to press, it was impossible to get any particulars as to prizewinners.

There were five entries in the class for a collection of six distinct dishes of fruit, Mr. G. H. Sage, gardener to the Earl of Dysart, Ham House, Richmond, securing first place. The exhibit comprised Black Hamburgh and Foster's Seedling Grapes, Lord Napier Nectarine, Brown Turkey Fig, Hero of Lockinge Melon, and a dish of fine Strawberries. Mr. W. Tidy, gardener to W. K. D'Arcy, Esq., Stanmore, Middlesex, was a capital second; and Mr. T. Osman, Chertsey, a fair third. Mr. H. W. Blake, gardener to the Earl of Onslow, Guildford, was first for three bunches of black Grapes; Mr. W. Ford, gardener to W. H. Ellis, Esq., Hounslow, second; and Mr. T. Osman third. Messrs. Tidy, T. Osman, and T. Turton were the prizewinners in the class for three bunches of white Grapes. Melons, Peaches, Nectarines, and Strawberries in the single dish classes were good, as also were the miscellaneous exhibits of fruit.

Five collections were staged in the vegetable class for a collection of twelve distinct vegetables, Mr. C. J. Waite, Esher, securing the chief award. This exhibitor staged Ashtop Fluke Potatoes, Telegraph Peas, White Tripoli Onions, Crimson Ball Beet, Giant Asparagus, Duke of York Tomato, Giant Green Globe Artichokes, Extra Early Autumn Mammoth Cauliflower, Summer Favourite Carrots, Model Cucumber, Long White Marrow, and Leviathan Beans. Mr. J. Gibson, gardener to E. H. Watts, Esq., Chiswick, was a capital second, whose exhibit would have been improved had the products been named, and Mr. J. Smith, gardener to W. H. Odum, Isleworth, a fair third.

Mr. Gibson was first in Messrs. Sutton & Sons' class for six vegetables with good Cauliflowers, Tomatoes, Peas, French Beans, and Carrots. Mr. C. J. Waite was second, and Mr. T. Wilkins, Henstridge, third. The last named secured the first of Messrs. J. Carter & Co.'s prizes, Mr. C. J. Waite being second, and Mr. J. Gibson third. Cottagers' exhibits of vegetables were highly creditable, and proved by their condition that much labour had been expended on their culture.



FRUIT FORCING.

Peaches and Nectarines.—*Early Forced Trees.*—Very early and continuous forcing to have the fruit ripe in May and early in June taxes the energies of the tree severely. The house, after the fruit is all gathered, should be ventilated to the fullest extent, and when the wood is sufficiently firm remove the roof lights entirely. If the weather be hot and the growths are sufficiently matured, the roof may be removed at the close of the present month or even earlier. In other cases ventilate to the fullest extent, and duly attend to watering the borders. Keep the foliage clean by occasional syringing, and if necessary apply an insecticide. Laterals must be stopped, but a little growth insures steady root action, and prevents the buds and foliage maturing too early. All shoots that have supported fruit and are no longer required should be removed to let air and light freely to the growths, and if there is too much crowding of the shoots for next year's bearing thin them judiciously.

Houses with Fruit Ripening.—On cold nights and during dull weather gentle warmth in the hot-water pipes will be necessary to maintain steady progress and insure complete swelling, finishing, and high quality. A temperature of 60° to 65° at night and 70° to 75° by day, with 10° to 15° more from sun heat, is sufficient, with the admission of a little air constantly. Afford moderate air moisture for the benefit of the foliage, and water the borders as required, while a mulching of lumpy material will keep the surface in a condition favourable to the activity of the roots. If the weather be very bright some netting spread over the roof lights will be an advantage in keeping the delicate-skinned

varieties, such as Noblesse, from unduly heating by the sun's rays, causing the fruit to ripen at the apex greatly in advance of the lower part.

Young Trees.—Disbudding is an essential in the early stages of growth. The principal branches, or shoots to form them, should be 12 to 15 inches apart, and the shoots for bearing disposed about 15 inches asunder along last year's wood, stopping them if necessary at that extent of growth, and the laterals to one joint as produced. The extension, or main shoots, should be trained in their full length, provided they are evenly balanced. Any gross shoots may be stopped, as they are a great inducement to gumming. Ventilate early in the day, increase it with the advancing temperature, leaving on a little air constantly. Essential growths must be trained so that sun and air have free access to them.

Figs.—*Second Crops.*—The fruits on early forced trees have now swelled to a good size, and to insure a number of fine Figs they must not be overcropped, the foliage kept free from insects, and the feeding liberal. Early forced planted out trees should have the young wood ripened and be resting by the middle of October. Borders that have become dry must be watered to bring them into a moist condition down to the drainage. Liquid manure will be required by trees having the roots in borders of limited extent. Mulch lightly and keep damped when it becomes dry, so as to encourage surface roots. Syringe daily, except in dull weather, when morning or early afternoon syringing will be sufficient, and always early enough to allow of the foliage getting dry before night. Judicious and forcible syringings are usually sufficient to keep down red spider, but if it gets a hold dislodge by means of an insecticide. Maintain a night temperature of 60° to 65°, and 70° to 75° by day. Ventilate early, especially on bright mornings. Keep the house through the day at 80° to 85° with sun heat, and close sufficiently early to run up to 85° or 90° or even 95°, providing plenty of atmospheric moisture.

Succession Houses.—Where the fruit changes colour afford more air, insuring a circulation constantly. Reduce the moisture gradually, keeping it from the fruit, which expose as much as possible to light and air. Lessened supplies of water at the roots tell in favour of quality, yet they must not be allowed to suffer. Trees swelling their crops will be benefited by a light mulching of short material over the roots, and through this supply liquid manure in the case of trees carrying heavy crops. In fine weather syringe twice a day, always in good time, and close so as to run up to 90°, 95°, or 100°. As the fruit approaches ripening provide a little ventilation before nightfall, and let it remain, increasing it early.

THE BEE-KEEPER.

QUEEN REARING.

"AN ENGLISH BEE-KEEPER" on page 550 recommends rearing young queens. Will he kindly give full particulars as early as possible how to carry this out? I have about fifty stocks to look after, and many have apparently old queens, as they have not swarmed for many years. I took out a frame the other day with six queen cells formed and one sealed over. I presume that would have been a good start for raising a stock of young queens, but I have had no experience on this particular subject.—J. H.

[I have found it of great advantage to have a system, and as far as it is practicable work up to it, in connection with bee-keeping. All hives should be numbered, and entered in a small book that may be carried in one's pocket, or be placed in a convenient spot, such as the top of one of the hives, for reference. In this should be marked the age of the queens, the date when introduced, and other items of interest, as it is then a very easy matter to know the age of every individual queen in the apiary, and be able to form a fairly correct opinion as to the most favourable season for rearing queens, also under what conditions they invariably come best. It is really a simple matter, and in practice is not nearly as formidable as it appears on paper.]

Under this system I have managed successfully a large apiary for many years past. I can tell at a glance the age of all the queens in my apiary, their history, how they were bred, whether in strong colonies or in nucleus, their failings, and which have turned out the best honey producers. All this may appear unnecessary to the casual observer, but to those who are ever trying to excel it may act as a reminder of something that has been left undone.

Although the stocks mentioned by "J. H." may not have swarmed for many years, some of them have in all probability reared young queens unknown to their owner. The stock containing the frame with six queen cells formed was evidently queenless, or intended swarming at an early date, and if a strong colony that has done well in previous years, would doubtless have made a good stock for commencing queen rearing. Although they may be lost it is not a serious matter, as any time during the present month will be suitable for commencing the all-important operation of "queen rearing."

As the proper time to commence queen raising is at their

natural swarming season it is an advantage if the young queen is hatched and fertilised, and has already commenced laying before the old queen is destroyed. It is now well known to bee-keepers that it will take upwards of three weeks from the laying of the eggs till the queen is hatched and laying, and if during that time the old queen can be kept laying, at a very low estimate it will result in at least 20,000 young bees. A young fertile queen will at this time of the year lay at least 3000 eggs daily. These, if an increase of stocks is not required, will be useful to strengthen other colonies that may require them, as the stronger the stocks the more honey will there be stored.

Where a number of queens is required it is advisable to operate on a strong colony (if there are no stocks that have swarmed during the past few days) on the morning of a fine day. When the bees are well on the wing is the most suitable time for finding the queen, as her removal is necessary before queen cells will be formed. When found she may be at once destroyed, or the frame with her and the adhering bees be placed in a separate hive with a couple of frames of fully drawn-out combs, one on each side, with the division board close up, and if necessary the nucleus may be strengthened with brood and bees from other hives. All will depend on circumstances. These will be useful to build up stocks containing young queens later on in the season.

Returning to the stock from which the queen was removed; fill in the vacant space from which the frame of brood was taken with a frame of brood obtained from another colony, selecting one for choice that has a number of eggs laid within the previous twenty-four hours. Cover the whole up warm, and queen cells will be commenced immediately, which will be sealed over in about eight days, the young queens appearing on the sixteenth day, and if the weather is favourable should be fertilised and laying in about six or eight days. But previous to this arrangements should be made for dividing the colony from which the queen was removed. About the tenth or twelfth day is the most suitable, as the cells are then sealed over, and it is not advisable to cut the cells out before that has taken place. There are various ways by which the colonies containing old or worn out queens may be requeened. The subject will be continued.—AN ENGLISH BEE-KEEPER.]



* * * All correspondence relating to editorial matters should be directed to "THE EDITOR." Letters addressed personally to Dr. Hogg or members of the staff often remain unopened unavoidably. We request that no one will write privately to any of our correspondents, as doing so subjects them to unjustifiable trouble and expense, and departmental writers are not expected to answer any letters they may receive on Gardening and Bee subjects, through the post.

Correspondents should not mix up on the same sheet questions relating to Gardening and those on Bee subjects, and should never send more than two or three questions at once. All articles intended for insertion should be written on one side of the paper only. We cannot, as a rule, reply to questions through the post, and we do not undertake to return rejected communications.

Exhibiting Vegetables (J. Lyne).—In a class entitled "A collection of vegetables, only one of Cabbage included," though we should not think the wording perfect, neither Cauliflowers nor Broccoli would be eligible if Cabbages were staged; and the inclusion of two representatives of the tribe, Cabbages and Cauliflowers, would certainly disqualify the collection or collections containing them.

Black Spot in Tomatoes (T. P. R.).—What "black spot" may be we are unable to say in the absence of specimens. Probably it is "black stripe," caused by *Fusarium solani*, which attacks the plants by the roots and ascends the stem by the mycelial hyphae. It frequently causes young plants to droop and die; sometimes it appears in the fruits and produces great destruction. In the plants it cannot be destroyed; but the free use of quicklime in the soil shortly before use will stop infection from that quarter. It is, however, frequently carried over in the seed, the resting spores being formed in the integument, and when the plant from the seed grows the pro-mycelium enters the plant by the radicle. Clean seed, therefore, should be used in clean soil—i.e., soil free from the fungus germs, which are the origin of the evil. We presume if you had a serious outbreak of disease in your hand you would like for a doctor to see it for determining its character, which he could not do with certainty in the absence of examination. Something will be said on the water another week.

Petunia (E. H. C.).—We suspect the double Petunia flower did not reach us in anything like its best condition. The flower appears to be neat and pleasing in colour, and, though worth preserving for home decoration, we doubt if it possesses material value. Very good tests are the examination of blooms by the Floral Committee of the Royal Horticultural Society, and sending samples to commercial florists, who are always on the look-out and anxious to obtain new and distinct varieties.

Humea elegans Drooping and Dying (Peach).—Various reasons have been assigned for the sudden collapse of these plants; but the cause is a fungus, usually *Botrytis cinerea* var. *sclerotiphila*, Sacc. The sclerotia is introduced with the soil, the mycelium gains access to the plant tissues by the roots or stem, and then girdles the latter at the collar, thus cutting off the supply of sap. There is no remedy, but the evil may be avoided by mixing about one-tenth of quicklime with the soil a short time before employing it for potting.

Carnations Dying (J. S.).—The cause of death is the girdling of the stem at the junction of the bark with the wood by some parasite which has ascended from the soil by the root portion. The fungus on the leaves is *Ocularia lychnicola*, Mass., a new parasite on Carnations, and possibly exceptional. There are also a few spots of the well-known Fairy ring spot fungus (*Heterosporium echinulatum*, Che.), but the death of the plant is due to the stem and root attacks. The land should receive a good dressing of quicklime, say a peck per rod, also of mineral superphosphate and kainit in equal parts at the rate of 3½ lbs. per rod, pointing lightly into the soil.

Strawberries for Early Forcing in Pots (S. H. W.).—The best size of pot is 5-inch, measured half an inch inside below the top of rim. Rather strong fibrous loam, stacked long enough to kill the turf, with a fifth of well-decayed manure added, and an 8-inch potful of bone-meal to a barrowload of the mixture, forms a suitable soil; but you may add a quart of soot and twice that amount of wood ashes with advantage. The best sort, all points considered, is Royal Sovereign. Newton Wonder is good for early forcing, and so also are La Grosse Sacrée, Vicomtesse Héricart de Thury, and Noble. The runners should be layered as early in July as they can be procured, either in the fruiting pots, or in small pots, subsequently transferring the plants to the fruiting pots. It is not necessary to stand the pots on troughs filled with manure. Other information respecting the plants may be gleaned by a careful perusal of our columns as the season advances, and any information on special points we shall be pleased to furnish on application.

Tomatoes not Colouring—Mineral Constituents (Cross).—The eye end of the fruit is perfectly ripe and well coloured, but the part next the stalk, and especially on one side, is quite hard, the cells composing this portion being very small with remarkably thick walls (cellulose), and it is questionable if they will assume a proper ripening colour and soft texture. The cells contain a certain amount of gum or waxy substance and retain it for a long period, even after the other parts are quite rotten from over-ripeness, and in not a few cases the fruit splits next the footstalk. We have noticed such fruit before, usually in a hot season and on plants that have received some check, such as a deficiency of moisture either at the roots or in the atmosphere, which has induced a high concentration of the juices in the parts most exposed to light. Some contend that the hardness is induced by a deficiency of nitrogen, but this is purely conjectural, as there is really more of this substance in the affected part than in the other portions of the fruit. There is no disease in the specimen, the cells and intercellular spaces of the "hard" part being perfectly free from fungal hyphae, and there is nothing calculated to produce a ferment. The lime will not do any harm, but possibly good, by acting on the organic matter in the soil, liberating ammonia, and this, with the base and action of the nitrifying micro-organisms, will result in nitrate of lime, the latter being anti-fungoid and a direct food, while the nitrogen will accelerate growth. This, the nitrogenised lime, tends to the utilisation of potash, which is the substance needed in your case for the transference of the assimilated matter, and to be of use must be available during the growth of the plant. An excess of potash is a bad thing, however, for Tomatoes, as it makes the growth soft and susceptible of attack from fungi of the endophytic class. The chief elements required by Tomatoes as indicated by an analysis of their ash are potash, soda, lime, magnesia, and phosphoric acid, also silica. Constituents of the ash of Tomato fruit in parts per hundred:—Potash, 27.00; soda, 10.39; lime, 12.10; magnesia, 8.21; iron, 3.96; phosphoric acid, 18.58; sulphuric acid, 4.86; silica, 12.36; chlorine, 2.54; organic matter, equal to nitrogen, 2.31. In compounding a manure for Tomatoes there is no need to have recourse to complicated formulæ. A useful mixture is made as follows:—Dissolved bones, 6 parts; kainit, 6 parts; silicate of soda, 4 parts; sulphate of ammonia, 2½ parts; sulphate of iron, ½ part; mix thoroughly and apply ½ lb. per square yard, 7 lbs. per rod, incorporating with the soil before placing out the plants. It is necessary to get the mixture into soil for appropriation by the plants for the building up of their structures healthily from the commencement, as it is little use striving to make good the defences after the enemy has gained possession of the citadel. Such is your case, and anything to be of use must act promptly. You may therefore use—Mineral superphosphate, 39 per cent. phosphate of lime, 3 parts; muriate of potash, 3 parts; sulphate of soda, ½ part; sulphate of magnesia, ½ part; and sulphate of iron, ¼ part; mix and use 4 ozs. per square yard, or if there are roots on the surface use half the amount, preferably mixed with good loam. If more growth be wanted add 2½ parts finely crushed nitrate of soda, thus forming a mixture of 10 parts. Repeat as necessary.

Destroying Mealy Bug on Vines (J. M. R.).—Vapourisation with nicotine has been found useful, but may injure the foliage of Muscat of Alexandria and Lady Downe's. It is safer to vapourise lightly and repeatedly than to rely on a strong operation. We have not noticed any harm accrue by the judicious use of the insecticide to the Black Alicante. Of course, it can be overdone, but there is no need for that in order to annihilate nearly all kinds of insects.

Malmalson Carnations Diseased (R. A. C.).—There are several fungal forms on the withered leaves, but no doubt the fungus now causing them to wither is *Ovularia lychnicola*, Mass. The host of this fungus is *Lychnis diurna*, but it attacks other plants of the order Caryophyllæ. It yields to spraying with a solution of permanganate of potash, or Condy's red fluid, diluted with an equal quantity of soft water. This solution is also fatal to other Carnation fungi, therefore you may use it with a certainty that it will destroy the enemies of the plants of a fungoid nature. It should be applied in the form of a spray, well moistening every part of the plants, repeating at intervals of ten days or a fortnight. It is also a good plan to supply a little common salt to the plants, about a quarter of a teaspoonful to each plant in a 6-inch pot, sprinkling on the surface and watering in.

Summer Pruning Banksian Rose (Somerset).—It is advisable to cut away as many of the growths that have borne flowers as can be spared, sufficient young shoots being left for covering the space, subject to their having ample room to derive full benefit from light and air for the solidification of the wood, as upon this depends the flowering next season. It will not answer to spur back the young shoots to the main branches at this time of the year, for the new shoots will not have time to grow and ripen, therefore retain as many of the young shoots already growing as there is room for without overcrowding. There is no harm in the shoots projecting from the wall, and any irregularities may be shortened. With the exercise of judgment you may retain sufficient wood for flowering without having recourse to cutting down. It is a matter of a successional supply of young well-matured growths this year for flowering next season.

Peaches Dropping (Peach House).—The Peaches have not, as you suppose, stoned, the kernel in five of the six fruits being a discoloured jelly-like mass, only one having the would-be cotyledons and embryo normal, and even this has ceased to derive support from the tree, the connection being quite brown and dead. The stone has been formed, but the defect is at the kernel, and is probably due to overcropping, as it certainly is to a deficiency of phosphatic matter, with possibly insufficient potash. In similar cases we have found lifting the trees answer well when there was a tendency to over-luxuriance, and when there was no such tendency affording a supply of phosphate of lime. An insufficient supply of phosphoric acid is a common cause of fruit not stoning satisfactorily. We have found the following mixture useful:—Dissolved bones four parts, muriate of potash two parts, sulphate of magnesia one part, and sulphate of lime one part, mixed, using 4 ozs. per square yard when the fruit is set and again when stoning commences.

Peach Leaves Falling (C. A. R.).—The leaves fall because they are deprived of sap, the mycelium of a fungus (*Monilia fructigena*), growing in the tissues of the shoots, girdling them and preventing the ascent of the juices, this giving rise to gumming. As the fungus is perennial by its mycelia and in dead parts give rise to sclerotia, the resting stage of the parasite, named *Sclerotinia fructigena*, the only sure remedy is to cut away and burn the affected parts. The growth is very sappy and exuberant, hence root-pruning and lifting would be means of rendering the work of the fungus less easy; indeed, sturdy growth, short-jointed and firm wood, well fortified with mineral matter, and especially lime, is the best safeguard against the inroads of the enemy. It is a very common fungus, and the chief cause of stone fruit shoots collapsing suddenly. The lifting should be done as soon as the leaves give indications of falling, and if carefully effected will not prejudice but improve the next year's crop of fruit. In the meantime cut away the affected growths as far as can be spared, and burn them, as from them may come spores that produce brown rot in stone fruits, and often spoil choice Pears and Apples in the autumn. It is one of the most malignant parasites of fruits, and but little regarded, as it assumes different forms of attack corresponding to the stages of the fungus.

COVENT GARDEN MARKET.—JUNE 24TH.

HEAVY supplies of Strawberries continue to arrive from the home counties, considerably lowering values of Grapes. Prices lower all round.

FRUIT.

	s. d.	s. d.		s. d.	s. d.
Apples, Tasmanians, per case	10	0 to 12	0	Peaches	4 0 to 12 0
Grapes, per lb.	0 9	2 0		St. Michael Pines, each ..	2 0 8 0
Lemons, case	11 0	14 0		Strawberries, per lb. ..	0 3 0 9

VEGETABLES.

	s.	d.		s.	d.		s.	d.		s.	d.		s.	d.	
Asparagus, per 100	2	0	to	3	6			Mustard and Cress, punnet	0	2	to	0	0
Beans, per lb.	0	9	1	2			Onions, bushel	..	..	3	6	4	0
Beet, Red, dozen	1	0	0	0			Parsley, dozen bunches	..	..	2	0	3	0
Carrots, bunch	0	3	0	4			Parsnips, dozen	..	..	1	0	0	0
Cauliflowers, dozen	2	0	3	0			Potatoes, per cwt.	..	..	2	0	4	0
Celery, bundle	1	0	0	0			Salsafy, bundle	..	..	1	0	1	6
Coleworts, dozen bunches	2	0	4	0			Seakale, per basket	..	..	0	0	0	0
Cucumbers, dozen	1	6	3	0			Scorzonera, bundle	..	..	1	6	0	0
Endive, dozen	1	2	1	6			Shallots, per lb	..	..	0	3	0	0
Herbs, bunch	0	2	0	0			Spinach, pad	..	..	0	0	4	6
Leeks, bunch	0	2	0	0			Sprouts, half siv..	..	..	0	0	0	0
Lettuce, dozen	1	3	0	0			Tomatoes, per lb.	..	..	0	4	0	6
Mushrooms, per lb.	0	6	0	8			Turnips, bunch	..	..	0	2	0	0

PLANTS IN POTS.

	s.	d.	s.	d.		s.	d.	s.	d.		
Arbor Vitæ (various) doz.	6	0	to	36	0	Ivy Geranium, per dozen	3	0	to	7	0
Aspidistra, dozen	18	0		36	0	Lilium Harrissi, per dozen	12	0		18	0
Aspidistra, specimen plant	5	0		10	6	„ laneifolium, doz.	12	0		15	0
Calceolarias, per dozen ..	6	0		9	0	Lobelia, per dozen	4	0		6	0
Crassula, dozen	9	0		15	0	Lycopodiums, dozen	3	0		4	0
Dracæna, various, dozen ..	12	0		30	0	Marguerite Daisy, dozen ..	6	0		9	0
Dracæna viridis, dozen ..	9	0		18	0	Mignonette, dozen pots ..	4	0		6	0
Ericas, various, per dozen ..	9	0		24	0	Myrtles, dozen	6	0		9	0
Euonymus, var., dozen ..	6	0		18	0	Nasturtium per dozen ..	3	0		6	0
Evergreens, in var., dozen	6	0		24	0	Palms, in var., each	1	0		15	0
Ferns in variety, dozen ..	4	0		18	0	„ (specimens)	2	0		63	0
Ferns (small) per hundred	4	0		6	0	Pelargoniums, per dozen ..	8	0		12	0
Ficus elastica, each	1	0		7	0	„ scarlets, per dozen ..	3	0		9	0
Foliage plants, var. each	1	0		5	0	Spiræas, doz... .. .	6	0		9	0
Hydrangea, various, doz... ..	9	0		24	0						

AVERAGE WHOLESALE PRICES.—OUT FLOWERS.—Orchid Blooms in variety.

	s.	d.	s.	d.		s.	d.	s.	d.
Arum Lilies, 12 blooms ..	2	0	to	4	0	Orchids, various, per dozen blooms	1	6	to 12 0
Asparagus Fern, per bunch	2	0	4	0	Pæonies, various, per dozen blooms	0	6	1	6
Bouvardias, bunch	0	6	1	0	Pelargoniums, 12 bunches	4	0	6	0
Carnations, 12 blooms ..	0	6	2	0	Polyanthus, dozen bunches	1	6	2	6
„ dozen bunches	4	0	8	0	Poppies, various, per dozen bunches	0	6	1	0
Cornflower, dozen bunches	2	0	3	0	Primula (double), dozen sprays	0	6	1	0
Eucharis, dozen	2	0	4	0	Pyrethrum, dozen bunches	1	6	3	0
Gardenias, dozen	2	0	3	0	Roses (indoor), dozen ..	0	6	1	6
Geranium, scarlet, doz. bunches	3	0	5	0	„ Tea, white, dozen ..	1	0	2	0
Iris (English) doz. bunches	4	0	6	0	„ Yellow, dozen (Niels)	2	0	4	0
Lilac (French) per bunch	4	6	6	0	„ Red, dozen blooms ..	0	6	1	0
Lilium candidum, per bunch.. .. .	1	0	2	0	„ Safrano (English), dozen.. .. .	1	0	2	0
Lilium candidum, dozen blooms	0	4	0	6	„ Pink, per dozen	3	0	5	0
Lilium longiflorum, twelve blooms	2	0	4	0	„ dozen bunches	4	0	6	0
Maidenhair Fern, doz. behs.	4	0	8	0	Smilax, per bunch	3	0	5	0
Marguerites, 12 bunches ..	2	0	3	0	Spiræa, dozen bunches ..	2	0	4	0
Mignonette, per dozen bunches	3	0	4	0	Stephanotis, dozen sprays	1	6	2	0
Myosotis or Forget-me-not, dozen bunches.. .. .	1	6	2	6	Tuberose, 12 blooms.. ..	0	4	0	6



THE BRITISH DAIRY FARMERS ON TOUR.

JUNE 9TH, 1896.

WHAT a delightful combination of pleasure and profit the B. D. F.'s made of it last week! Fancy, how charming must have been the run from the South Downs to Chester; the pleasant weather, the favourable appearance of the green crops—capital Wheat—Wheat loves heat and dryness. Oats and Barley had borne the long drought better than might have been expected. Short, possibly, in straw they are, but the plant being full there must be a fair yield when harvest comes. Hay crops also, with a few brilliant exceptions, were wanting; but between Chester and Welshpool all crops alike were good, better land perhaps was the factor there. Powis Castle Farm looked well all round. Where there had been sufficient moisture Beans promise well.

Switzerland alone drew a large gathering, and it is quite an open question whether all the Swiss pilgrims were on dairy work intent. Local element has been much in evidence in N. Wales, and it is to be hoped that all went away taking some practical hint either for dairy or hen yard.

It must be of benefit to rub one against another, to hear papers by men who are thoroughly at home in their subjects, to see well-cultivated farms and well-managed herds, and the greatest thinker, the profoundest scholar often having the teachable mind of a child, profits above and beyond his shallower companion. It is said there was not time enough for talk. Dare we hint, was all the talking time profitably used? It is not only women who get off the main track. Men are equally prone to wander.

The first paper was by Lord Powis' agent, Mr. Addie, and it dealt with Montgomery dairy farming—a stock-bearing, not essentially dairy county. Herefords and Shorthorns crossed are the principal breed, a few of the smokey-faced old native

cattle and a few black Welsh cattle. There is little trade for milk, the initial difficulty of finding good dairy maids, and the difficulty of disposing of dairy produce being responsible.

Small holdings being the rule the butter is made in small quantities; it is collected from the farms by higglers, packed carelessly, badly marketed, and the result is a poor price, the tub butter being particularly unsatisfactory. The dairy classes have been of great benefit, but, alas! the school is now closed.

Mr. Wilson spoke of a creamery in Carmarthenshire where the price of the milk was regulated in accordance with the butter fat. Professor Long advocated the blending system for North Wales as being preferable to the creamery system. He urged renewed attention to cows especially bred for dairy work, and also advocated more home-grown foods instead of the outlay for bought feeding stuffs. Mr. Laird of Edinburgh advocated more care in the housing of cows. No coddling, but comfort, and suggested Cabbages as an excellent article in the dietary of the milk cow.

One member advocated the increased use of Kerry cattle for their hardiness and great milk productiveness. He urged in their favour that five can be kept on what would sustain only three Shorthorns. There must be some reason in that.

The paper read at Denbigh, by Mr. O. Callaghan, was on the advantages and disadvantages of butter factories and creameries on the co-operative principle. In the co operative system the advantage was, that it secured to the farmer whatever profits were earned by the concern, the disadvantages depended on the managing committee. He spoke of the butter blending as carried on in Normandy. To a central factory the various farmers send their butter; it is graded and classed according to its merits, mixed and re-worked, and turned out of uniform colour, texture, and saltiness.

Now, the great advantage here is that a couple of journeys a week take much less doing than daily cream delivery; but then again there must be at each farm a capable dairy woman, proper apparatus, and suitable buildings with a good water supply.

Milk taken to the creamery receives the best attention from first to last, but then there is the labour of the two daily journeys.

Mr. O. Callaghan goes on to say the English co operative factory should be able to deal with milk either for consumption, pure and simple, or for manufacture into cream, butter or cheese.

Professor Long contends that it is a great disadvantage to pay creamery companies for work which might be done privately by the farmer and his family. That is all right if the members of that family will allow themselves to be properly taught. Has the Professor ever tried to get up a class for technical instruction in dairy work, where there was nothing to pay? We have, and found it a dismal failure.

Mr. Nuttall cannot see his way to a living out of butter making. Stilton cheese is his sheet anchor.

One of the local farmers says he can get good butter (evidently he has a good wife), but his difficulty is the marketing. Will light rai ways help him?

Time would fail to tell of all the pleasant places seen, and kind people who so freely entertained; but one word must be given to the Flintshire and Denbigh Dairy School at Lleweni, under Miss Roberts and Professor Winter. The good cellars of an old mansion are just the thing for the purpose. All modern appliances are in use, thirty six cows are kept for the dairy, and the pupils are instructed in scientific butter making, the various forms of cheese, such as Stilton, Cheshire, with other approved foreign varieties.

The school term is for six months; for the first three months a travelling dairy school is out in the two counties, and the

thirty-six head pupils receive a six-weeks tuition at Lleweni free, and also free board and lodging.

The successful out of the thirty-six can further attend lectures at Bangor. These good gentlemen touched also on poultry keeping for profit, a paper which we may consider at a later date.

WORK ON THE HOME FARM.

Work on a farm seems to be never ending. A fine autumn may be followed by an open winter and a dry spring. Work may have never been so forward, and a fortnight's ease for men and horses may appear a certain prospect; but just as certainly will more little items of work, small in themselves but large in the aggregate, turn up to fill every vacant day.

Of course, the labourer gets his day off whether work be slack or otherwise, and the foreman chooses a suitable opportunity for a couple of days' visit to his friends, and, if he be a good man, right well does he earn his holiday.

The labourer has regular work found him for a regular wage. He comes to work at six if sound in health, with no anxiety; the weather makes little difference to him, and he returns home at 5.30 without a care to harass him.

Not so the foreman. On a large farm the management of the labour and carrying out of the master's plans devolve upon him. He has to make the square pegs fit the square holes, arrange the work of the horses to the best advantage, and must be ready (in the event of a thunder-storm, for instance) to whip up his pack and start on a new line at a few minutes' notice.

If an accident should happen he has to be the first man there to do his best to minimise the consequences. His evenings are generally spent quietly mulling out the work of the next few days. The weather may appear settled, and everything plain sailing; he retires to rest, and looks out at 4 A.M. to find a pouring wet morning, and all his plans have to be recast.

A good foreman should be competent to control the details of the labour without continually running to his employer. The latter has anxieties enough nowadays in the cultivation of his farm so that there shall be a reasonable prospect of a profit, and what with the difficulty of realising his produce and stock to good advantage, and of minimising or preventing losses of the said stock, he has his hands quite full enough without having to see that Bill Smith does not yoke his gear horse to the shaft horse's bridle. We have seen such a thing done. The master will have losses that he personally cannot prevent or his men either. Then, again, there may be such blunders as when Tom, the waggoner, comes to inform his employer in the most casual way, "Blossom's deead, Sir." "What! How?" "Aye, she slipped into dyke ageean bridge. I yoked Smiler to her heead an' pulled her oot, but she's deead." It is found to be a dry dyke, and Blossom only suffering from a broken neck. Tom has an opportunity of visiting his relations, and returns no more to the society of Smiler, but the master gets nothing for Blossom but the value of the skin.

Hoeing is finished everywhere except as to the Turnips, and they will soon be ready for striking out and singling. Flies have done a little damage, but nothing material, and after the recent rains there should be an abundant crop of roots.

The rain may have hindered haymaking slightly, but it has not been continuous enough to be serious. Wheat has flowered well; spring corn has much improved, and will bulk fairly; pastures growing fast.

METEOROLOGICAL OBSERVATIONS.

OAMDEN SQUARE, LONDON.

Lat. 51° 32' 40" N.; Long. 0° 8' 0" W.; Altitude 111 feet.

DATE.		9 A.M.				IN THE DAY.				Rain.
1896.	Barometer at 32°, and Sea Level.	Hygrometer.		Direc- tion of Wind.	Temp. of soil at 1 foot.	Shade Tem- perature.		Radiation Temperature.		
		Dry.	Wet.			Max.	Min.	In Sun.	On Grass.	
June.										
	Inchs.	deg.	deg.		deg.	deg.	deg.	deg.	deg.	Inchs.
Sunday .. 14	30.093	62.8	60.5	E.	63.3	80.4	58.2	120.4	51.9	—
Monday .. 15	29.962	67.7	62.0	N.	64.3	85.1	57.2	135.9	52.1	—
Tuesday .. 16	29.764	74.3	65.9	W.	66.0	81.4	61.1	125.9	55.2	—
Wednesday 17	29.711	67.9	60.1	S.	66.8	71.0	60.4	114.3	54.2	0.059
Thursday .. 18	30.054	65.8	57.1	N.	64.2	73.7	50.9	122.0	43.6	—
Friday .. 19	30.237	64.8	56.2	N.	64.9	75.9	56.2	129.3	51.0	—
Saturday .. 20	30.247	66.3	55.2	S.W.	65.0	73.8	52.1	116.4	44.2	—
	30.010	67.1	59.6		64.9	77.8	56.6	123.5	50.3	0.059

REMARKS.

- 14th.—Overcast till about 10.30 A.M., sunny and hot after.
 15th.—Bright and hot, but breezy.
 16th.—Sunny and hot, but rather hazy and cloudy at times.
 17th.—Sunny early; overcast day, with spots of rain about 11 A.M. and showers at 2 P.M. and 5.30 P.M.; clear night.
 18th.—Sunny almost throughout, with pleasant breeze.
 19th.—Bright sunny morning, frequently cloudy after noon.
 20th.—Bright sun early; generally overcast from 10 A.M. to 2 P.M., and frequently sunny after.

A dry, hot week. Temperature 6° above the average.—G. J. SYMONS.

